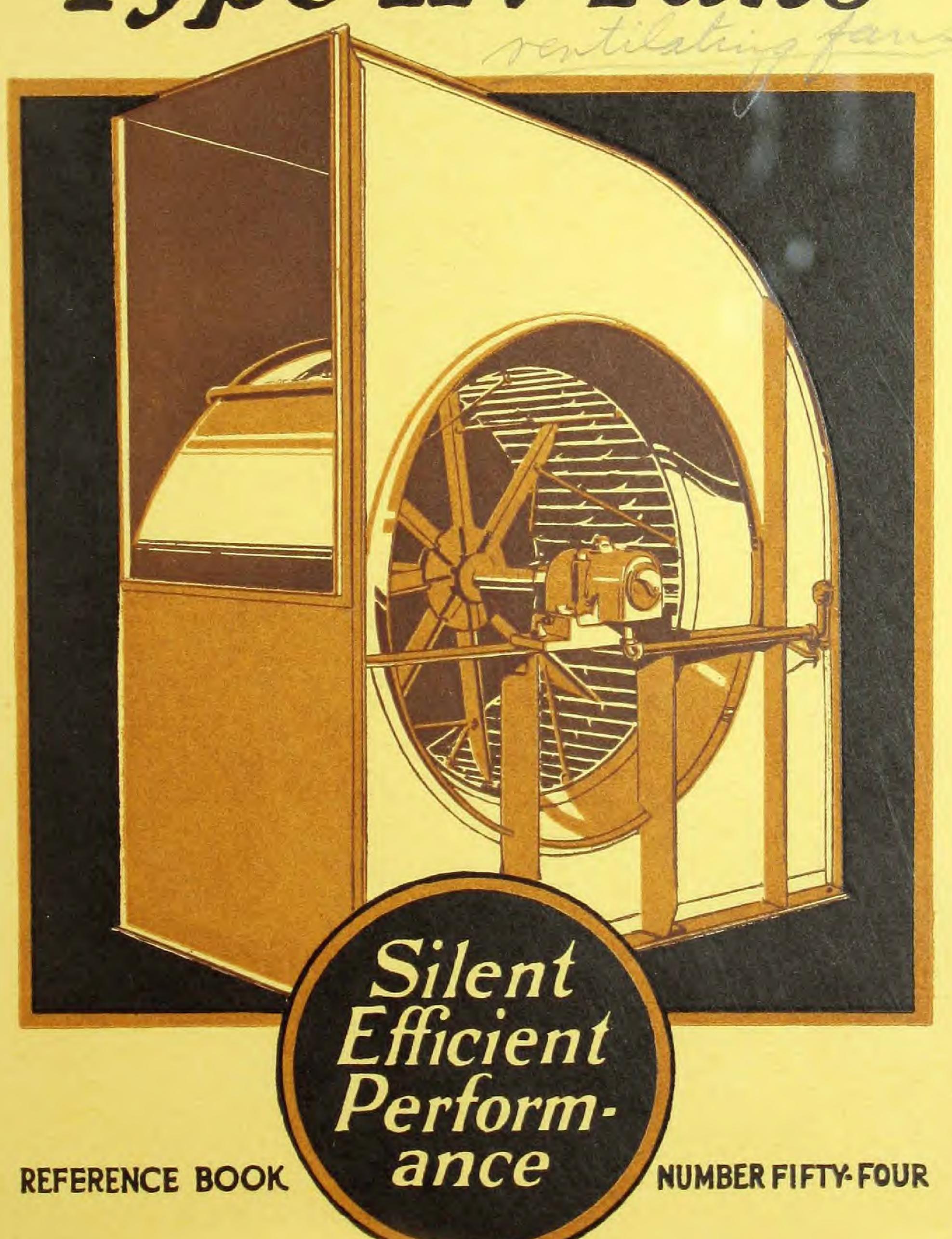
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DEC 23 1927

# GLARAGE

Type HV Fans



PHILADELPHIA OFFICE Commercial Trust Building

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# CLARAGE TYPE HV FANS



Safeguarding Economy Wherever Ventilation is Essential to Human Health and Comfort

ENGINEERING REFERENCE BOOK NO. 54

### CLARAGE FAN COMPANY

Manufacturers of Fans, Air Washers, Unit Heaters, and Engines KALAMAZOO, MICHIGAN SALES ENGINEERING OFFICES IN PRINCIPAL CITIES

# =(CLARAGE)=



TYPE HV FANS)

# Service in the Field Confirms the Efficiency Claims Made for This Fan

IN the laboratory of actual service the Clarage Type HV Multiblade Fan stands thoroughly tested—and approved.

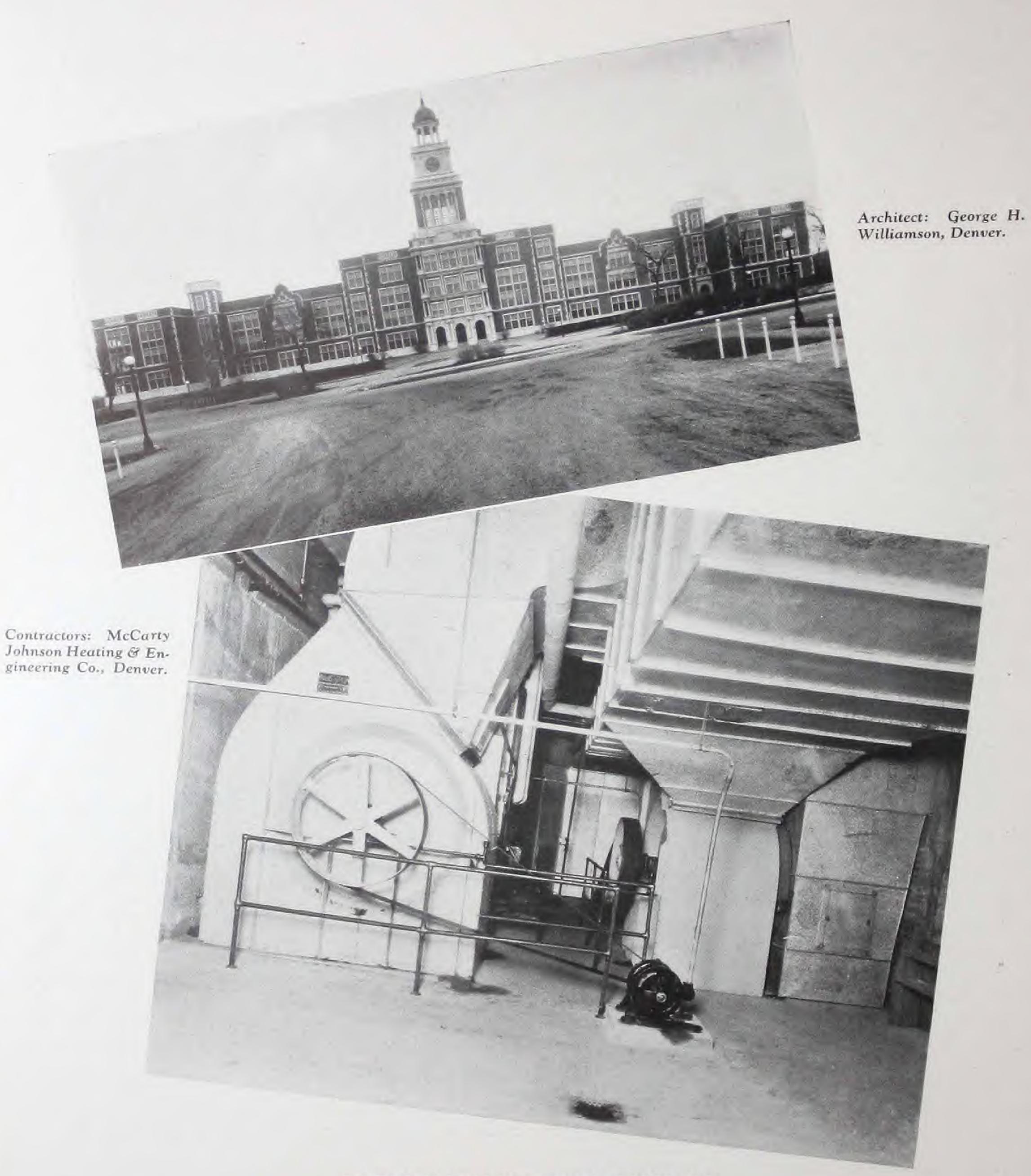
Hundreds of HV Fans have been in continuous operation over two years, yet not a single complaint has been registered against this equipment—not one motor has been overloaded—not one HV Fan has failed to perform as Clarage engineers specified that it would.

Service in the field fully confirms the statements made by this company for this fan when first announced, and consistently reiterated in Clarage advertising since that time. Service records of equipment installed prove beyond question of doubt, that the Type HV Fan develops the unparalleled high maximum efficiency of 77% not only when tested in accordance with the Standard Test Code—but on the job as well. Service records clearly demonstrate that Clarage engineering, as reflected in the fan's unmatched performance, is unmistakably sound.

Today, the HV Fan's exclusive power saving feature, due to the high efficiency of 77%, is a recognized factor wherever fan equipment for ventilating and air conditioning is specified and used. This power saving feature saves as high as 15% to 20% in operating cost. It makes possible with safety the use of smaller, less expensive motors for drive. It often enables an HV Fan one size smaller to meet exacting specifications, and thereby promote another desirable economy in first cost.

Leading architects and engineers throughout the country consistently recommend and endorse the Clarage HV Fan. Leading contractors use this equipment. Highest efficiency plus sturdy, dependable construction and silence of performance all combine to make the HV Fan the best in its class—reasons sufficient why you are likely to prefer it for your own work.





### EAST HIGH SCHOOL, DENVER, COLORADO

This great school is one of the finest educational institutions in the country. Twenty-three HV Fans furnish the ventilation. The incoming air is washed and humidified by six Clarage Air Washers. Two of the complete systems are shown above.

TYPE HV FANS) 77% EFFICIENT

# Over Two Thousand Fans are Installed— Many of the Country's Leading Buildings are HV Fan Equipped

In the comparatively short time that the Type HV Fan has been available, installations have been made in practically every state in the Union with a total of considerably more than two thousand units now installed. This product of advanced engineering, in view of its exclusive refinements, has gained wide acceptance. The fan industry records no greater success in all of its history.

The partial list of HV ventilating and air conditioning installations given below and on the succeeding page are evidence of the fact that the HV Fan has been selected for some of the finest and largest buildings—hotels, schools, theatres and churches—erected in America during the last few years. In short, Clarage HV Fan Equipment has established an enviable record—bears a good name and is widely used.

### A LIST OF NOTABLE HV FAN INSTALLATIONS

Cameo Theatre, New York City.

Capitol Theatre, Reading, Pa.

Central High School, Johnstown, Pa.

Central Lutheran Church, Minneapolis, Minn.

Central School, Rochester, Minn.

Chapel Theatre, Columbus, Ohio.

Colonial Theatre, Allentown, Pa.

Colonial Theatre, Richmond, Va.

Collingwood Ave. Presbyterian Church, Toledo, Ohio.

Cortland High School, Cortland, N. Y.

Country Club, Amherst, N. Y.

Drexel Hill Theatre, Clifton, Pa.

Earle Theatre, Philadelphia, Pa.

Earle Theatre, Washington, D. C.

East End High School, Duluth, Minn.

East High School, Denver, Colo.

East Lansing School, East Lansing, Mich.

East School, Menominee, Wis.

Easton Theatre, Easton, Pa.

Eau Claire High School, Eau Claire, Wis.

Edgewater Club, Santa Monica, Calif.

Elks Memorial Building, Chicago, Ill.

Ellwood City High School, Ellwood City, Pa.

Erlanger Theatre, Philadelphia, Pa.

Fidelity Trust Bldg., Philadelphia, Pa.

Fifteenth Ward School, Allentown, Pa.

Forty-Second Street School, Los Angeles, Calif.

Fort Morgan School, Fort Morgan, Colo.

Gates Theatre, Brooklyn, N. Y.

Grauman Chinese Theatre, Los Angeles, Calif.

Greenpoint Savings Bank, Brooklyn, N. Y.

Grove Theatre, Chicago, Ill.

Hanover Hospital, Hanover, Pa.

Hayes Hotel, Jackson, Mich.

Jewelers' Bldg., Chicago, Ill.

Keith's Fordham Theatre, New York City.

Lake Shore Athletic Club, Chicago, Ill.

Lincoln Hotel, Lincoln, Nebr.

Lincoln School, Los Angeles, Calif.

Loew's Theatre, Canton, Ohio.

Loew's Theatre, Norfolk, Va.

Loew's Theatre, Washington, D. C.

Loew's Astor Theatre, New York City.

Loew's 83rd St. Theatre, New York City.

Loew's Fordham Theatre, Bronx, N. Y.

Continued on Next Page

# CLARAGE =

### NOTABLE INSTALLATIONS—Continued

Loew's Hawthorne Amusement, Brooklyn, N. Y. Loew's Gates Theatre, Brooklyn, New York. Loew's Lexington Theatre, New York City. Loew's New Rochelle Theatre, New Rochelle,

N. Y. Loew's Newark Theatre, Newark, N. J. Longmont High School, Longmont, Colo. Lydick School, South Bend, Ind. Marks' Bros. Theatre, Chicago, Ill. Martha Wilson Hospital, Chicago, Ill. Masonic Temple, South Bend, Ind. Massillon State Hospital, Massillon, Ohio. Michigan State College, Lansing, Mich. Michigan State Prison, Jackson, Mich. Mitchell School, Denver, Colo. Muhlenberg College, Muhlenberg, Pa. National Theatre, Richmond, Va. New Palace Theatre, Chicago, Ill. New York University, New York City. North Shore Theatre, Chicago, Ill. Norwood Theatre, Norwood, Pa. Norva Theatre, Norfolk, Va. Olds Hotel, Lansing, Mich. Olympic Theatre, Brooklyn, N. Y. Oriental Theatre, Chicago, Ill. Orpheum Theatre, Rockford, Ill. Orpheum Theatre, Madison, Wis. People's Church, Chicago, Ill. Pershing Palace, Chicago, Ill. Proctor's 86th St. Theatre, New York City. Prospect Street School, Salem, Ohio. Randolph High School, Randolph, N. Y. Ravenswood Masonic Lodge, Chicago, Ill. Riverside Drive Apartments, New York City. Rogers Hotel, Bloomington, Ill. Saint Joseph Parochial School, South Bend, Ind.

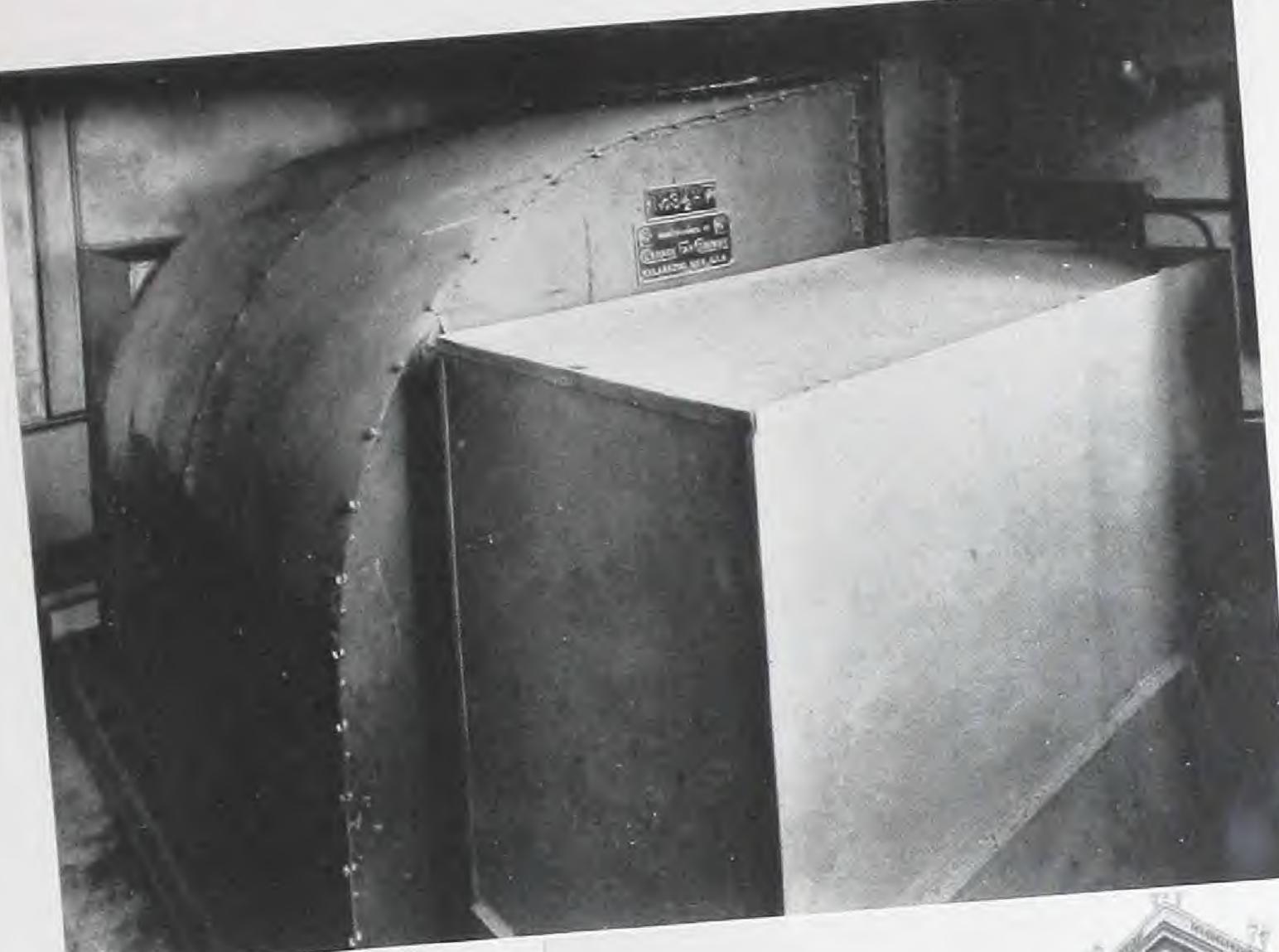
San Pedro Young Men's Christian Ass'n., San

Pedro, Calif.

Saint Mathias School, Chicago, Ill. Saint Mary's Public School, Saint Mary's, Pa. St. Anne's Church, Minneapolis, Minn. Sacred Heart School, Robinsdale, Minn. Saxe Theatre, Kenosha, Wis. Seneca Hotel, Chicago, Ill. Sherman Hotel, Chicago, Ill. Shoreland Hotel, Chicago, Ill. St. Mary's School, Faribault, Minn. Spaulding Hotel, Duluth, Minn. Stanley Theatre, Pittsburgh, Pa. Stanley Crandall Theatre, Baltimore, Md. State Theatre, Easton, Pa. State Theatre, Harrisburg, Pa. State Theatre, Kalamazoo, Mich. Stevens Hotel, Chicago, Ill. University of Notre Dame, South Bend, Ind. United Masonic Temple, Chicago, Ill. Ure Theatre, Chicago, Ill. Union Trust Bldg., Chicago, Ill. Universal Films Theatre, New York City. University of Illinois, Urbana, Ill. United Studios Theatre, Kenosha, Wis. Uptown Theatre, Chicago, Ill. Uptown Theatre, Milwaukee, Wis. Vocational School, Pasadena, Calif. Washington-Duke Hotel, Durham, N. C. Washington Junior High School, Pasadena, Calif.

Washington School, Los Angeles, Calif. Washburn High School, Minneapolis, Minn. Webster Hall, Pittsburgh, Pa. Westchester Biltmore Club, Rye, N. Y. West Tremont Ave. Theatre, New York City. West Virginia State Capitol, Charleston, W. Va. Willard Theatre, Chicago, Ill. Woolworth 42nd St. Store, New York City. Worcester Theatre, Worcester, Mass.

Young Men's Christian Ass'n., Chicago, Ill.



Architects: Stanhope S. Johnson and R. O. Brannon, Lynchburg, Virginia.

Contractors: Dermott Heating Co., Durham.

## WASHINGTON-DUKE HOTEL, DURHAM, NORTH CAROLINA

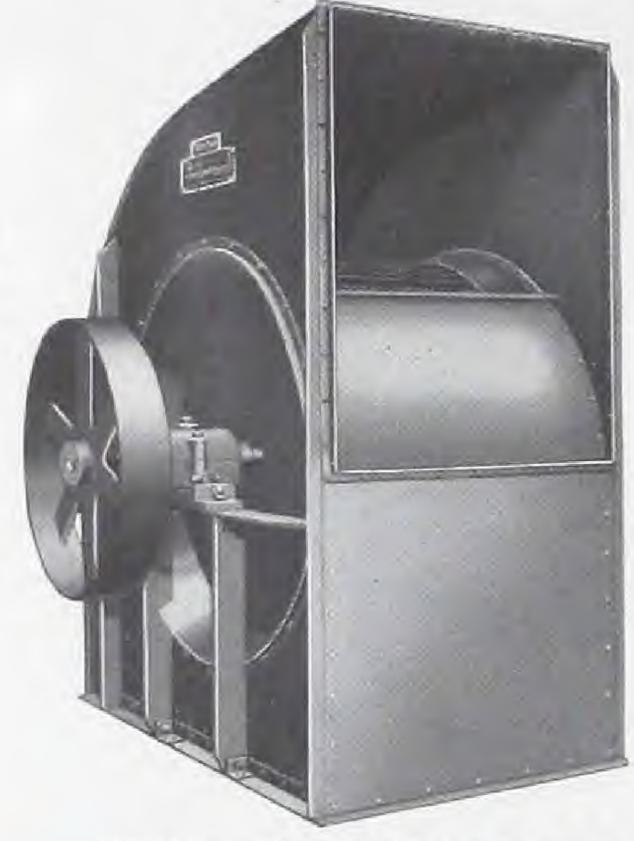
South of the Mason and Dixon Line, as well as North of it, the HV Fan is used extensively. An outstanding Southern installation is this splendid hotel at Durham. Four large HV Fans, one of which is shown above, furnish adequate ventilation for this building.



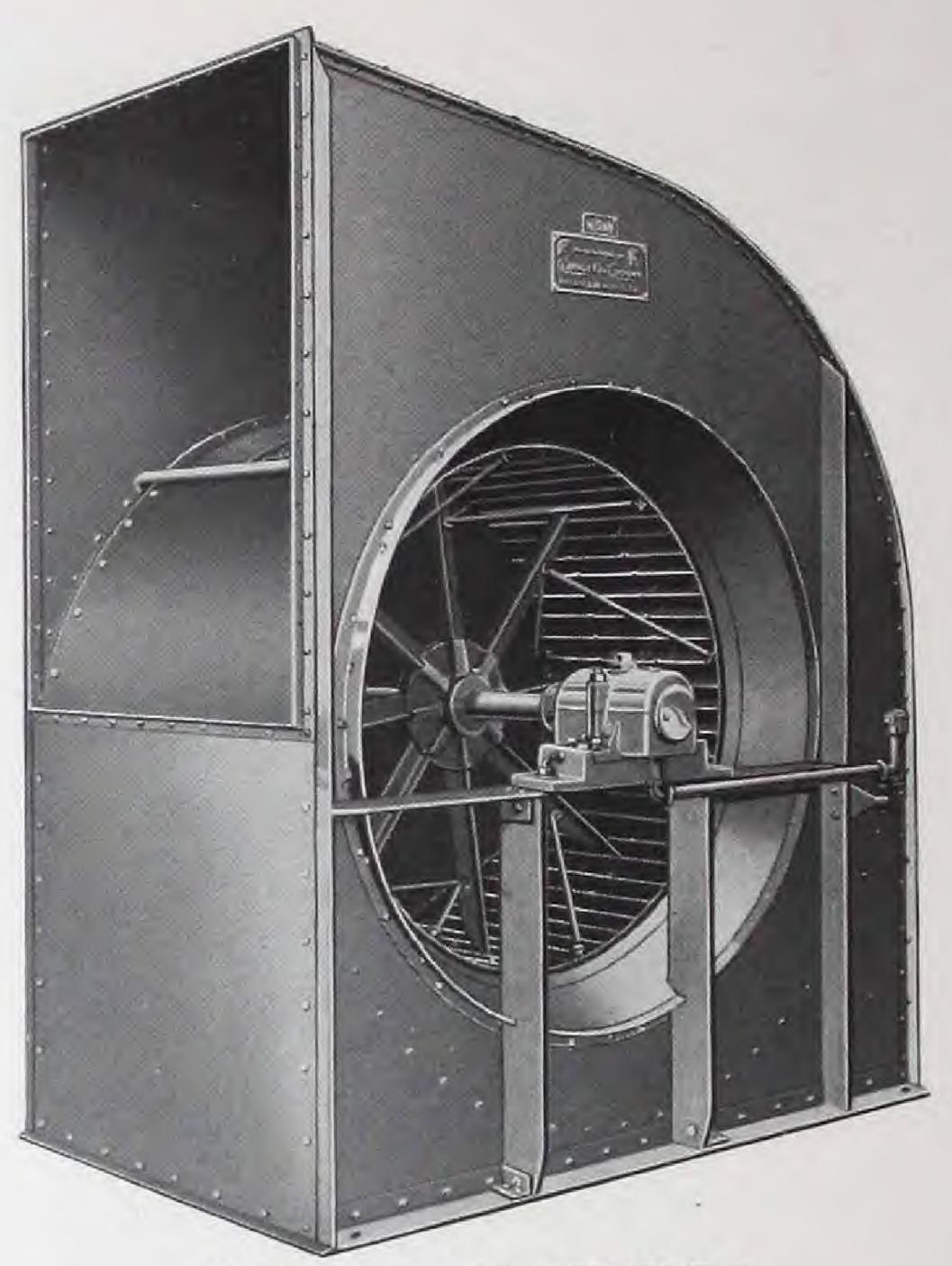
(TYPE HV FANS) 77% EFFICIENT)

Note trim, sturdy appearance of this HV Fan, particularly the generous size of bearings and that the steel bearing supports run to the foundation line, a feature offered as standard equipment on Clarage Fans.

The Single Width Fan is built either Single or Double Inlet.



DRIVE SIDE, SINGLE INLET, ARRANGEMENT A



INLET VIEW, ARRANGEMENT A

## Type HV Fan—Sizes 3½ to 9

THE Clarage HV Fan is manufactured in an ample range of sizes, covering every requirement as encountered in ventilation and air conditioning work. The architect, engineer or contractor need not go outside this efficient, well-built line of equipment to economically and satisfactorily meet any problem in the field. The following pages are devoted to the three general types of construction as used in building the equipment and to a discussion of constructional features with important notes on drive, Standard Arrangements, etc.

In the larger sizes, 3½ to 9, the HV Fan is furnished to meet the particular requirements of each individual installation. After assembly the unit is not adjustable for direction of discharge, although any direction of discharge may be specified at time of ordering and the fan will be built accordingly. The fan rotation may be changed after installation, if desired.

The housing is of heavy gauge sheet steel rigidly braced by angles and finished in workmanlike manner. Inlet and outlet connections permitting easy attachment of sheet metal ducts are provided as standard equipment with proper canvas connections furnished as an extra where specified. The wheel is thoroughly braced as illustrated on page 13, accurately balanced, and is supported by a shaft of ample size which eliminates vibration even though the operating speed is considerably higher than customary practice.

The Clarage Special Bearings, self-aligning, dust-proof, and oil-tight are mounted on structural steel supports extending to the floor line. Wear in the bearings may be taken up by a simple adjustment.

The HV Fan in these larger sizes is so constructed that it may be easily taken apart to

TYPE HV FANS

gain entrance into buildings through comparatively small openings, and it is not a difficult task to reassemble the unit after entrance has been made. The only limiting factor is the wheel which cannot be "knocked down."

### Double Width Fan

The HV Fan, sines 3% to 9, double width is constructed in the same goneral high grade manner as is the single width fan, except that size for size the bouning is practically twice the width, and the unit is furnished with two wheels instead of one.

The double width fan is recommended principally to meet two conditions: first, where insufficient board

room will not permit the installation of a single width fan of proper size ofter testance if the equipment is large or if the apparatus is to be



DOTE WAR WINDSON, DANS MAKE CHARGE ARRANGEMENT OF THE PARTY.

has been previously made for rectiful about to

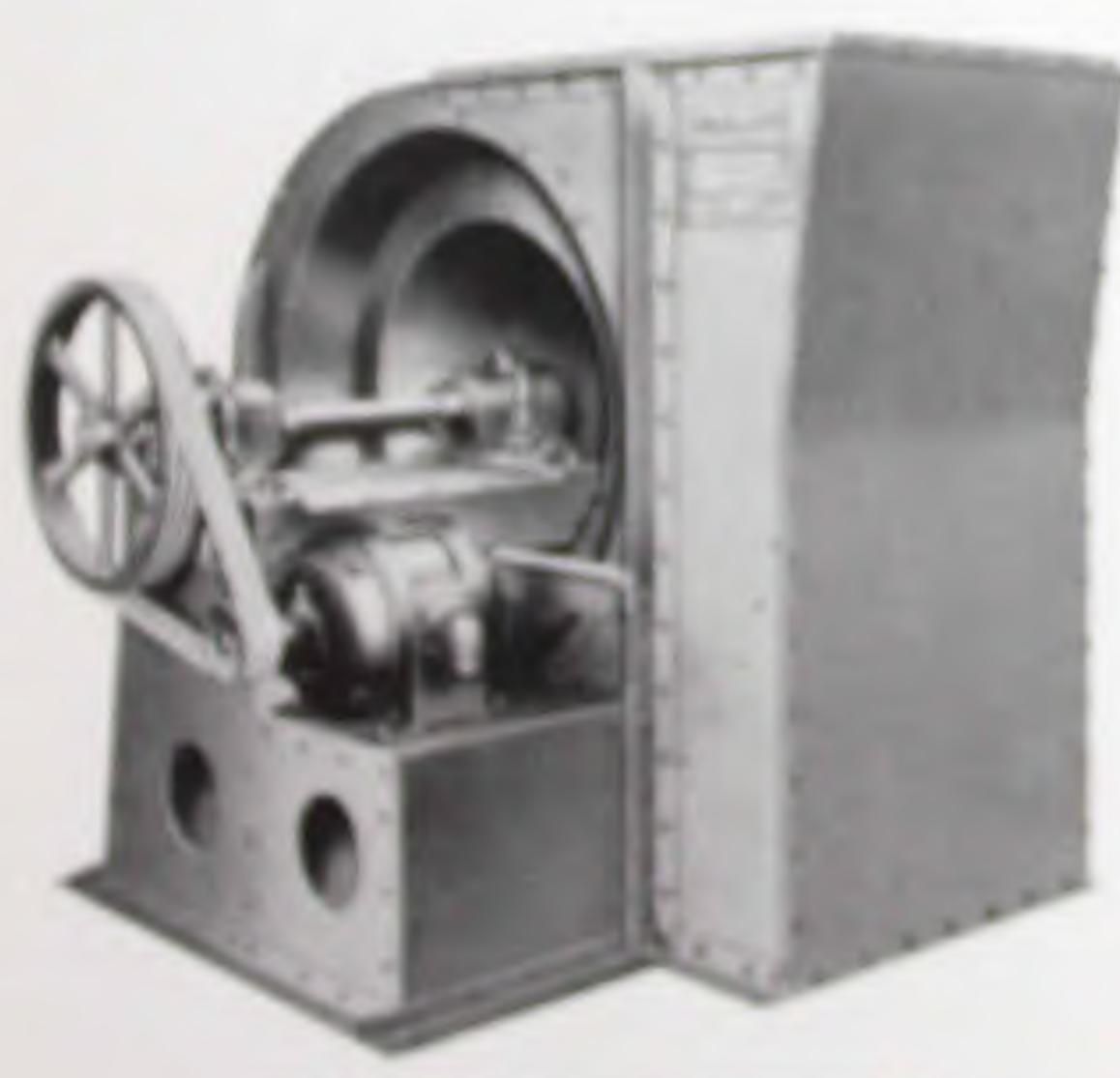
a higher operating speed in descret to order that the point may be direct conmented to a standard speed motor. The deable face has an over-all height decidedly less than the ever-all height of a single width face of same capacity, while its opstrating speed is consolerably higher for any given requirement. These advantages acrossed for the fact that the double width unit is widely used.

The Clarage HV Fan, develop width to finith only as a theorem with two interactions in furnished in the Standard Arrangements indicated on page 16. Capacities for this fan can be easily computed from the Prefermance Tables by following the rules given on page 12.

### 7-8 Housed Fan

The HV Pars, since 3% to 2, is built by becomed single and double width in the Standard Arrangements named on page 15. It is not furnished in sizes empler thus the 3%.

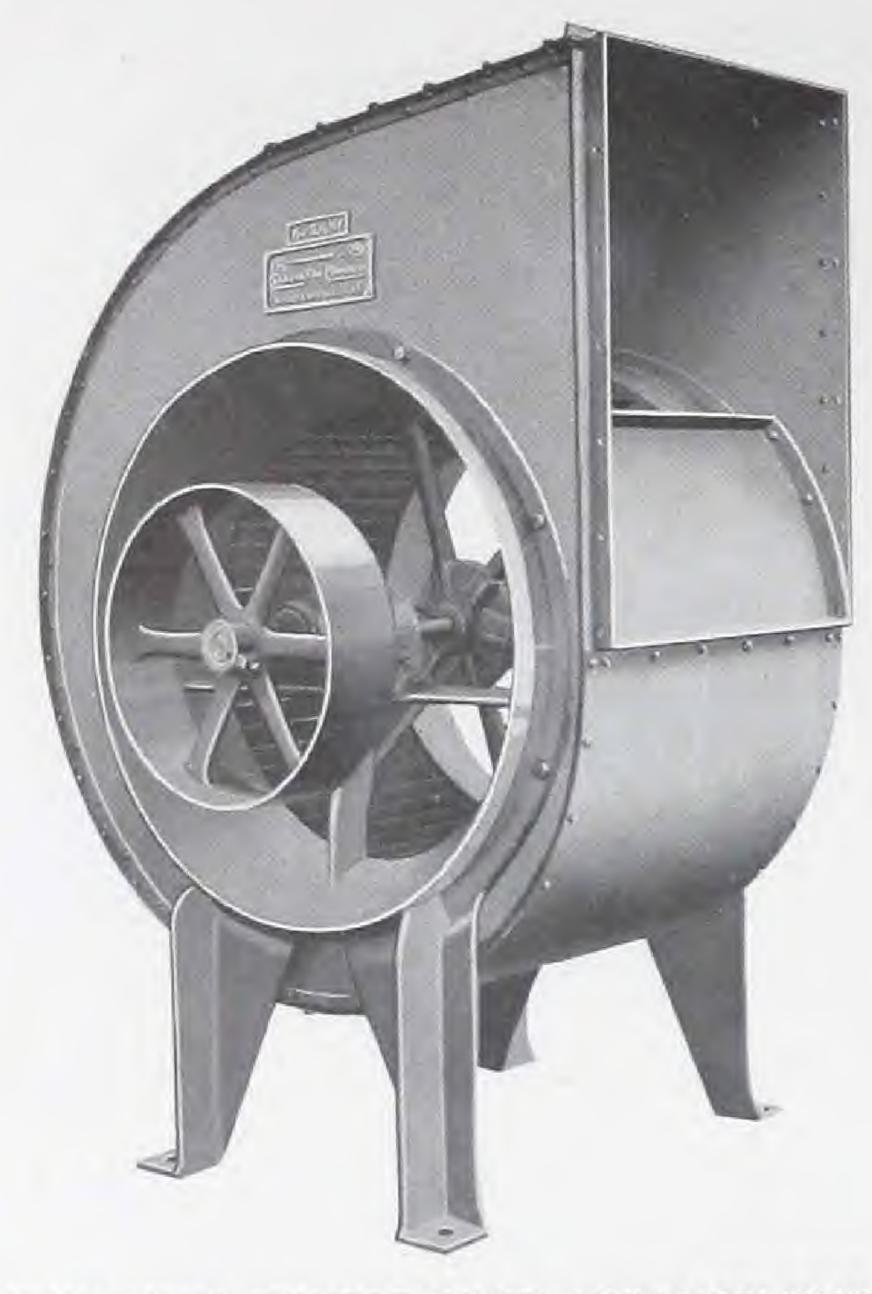
Detailed Dista on sizes 1% to 8; Features of Construction, Pages 13 to 13. Performance Tables, Pages 13 to 17. Dispension Charts, Pages 42 to 44.



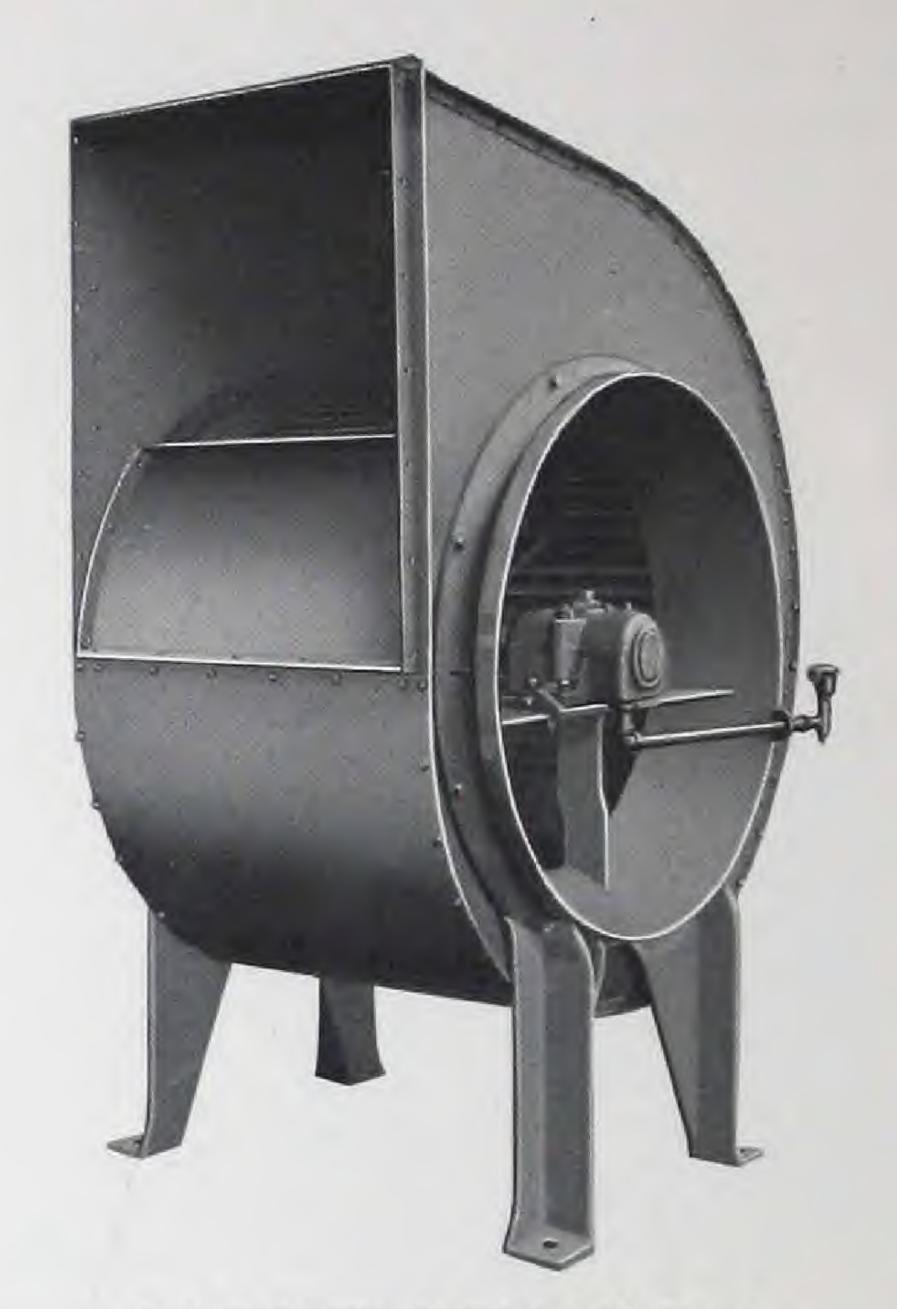
TEXACOUR DRIVE-ARRANGEMENT I

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Note: Single Width Fan is built either Single or Double Inlet.



INLET VIEW, ARRANGEMENT A

### DRIVE SIDE, DOUBLE INLET, ARRANGEMENT A

## Type HV Fan—Sizes 1½ to 3

THE HV Fan, sizes 1½ to 3, is built with a housing of sheet steel and with heavy cast iron side plates. The side plate castings are massive (note cast iron arm construction in Arrangement B Fan), offering rigid support to the Clarage self-aligning, dust-proof, oiltight Bearings, the wheel and shaft, and to the housing. This Clarage construction is the most rugged on the market which accounts for the excellent service records established by the HV Fan in these smaller sizes.

The wheel is constructed in the same high grade manner used in building the wheel for the larger HV Fan. It is given both a static and running balance test (see page 13).

### Double Width Fan

Where head room is limited or where a higher operating speed is desired for direct motor drive, the double width fan is recommended. As is the case in the large HV sizes, a double width fan has an over-all height considerably less than a single width fan of same

capacity, while its operating speed will be higher for any specified performance. The double width fan is only furnished as a blower with two inlets and is equipped with two wheels. It is built in the Standard Arrangements shown on page 16. To determine capacities, use the Performance Tables for the single width fan following the instructions given on page 19.

The HV Fan, sizes 1½ to 3, is not furnished % housed.

### Reversible and Adjustable Feature

Another advantage incorporated into the design and construction of the HV Fan, sizes 1½ to 3, is the method used in securing the housing to the side plate castings. Eight tap bolts are used and the holes for the tap bolts are spaced equidistant and drilled to template. This Clarage feature permits the fan to be reversible for any of eight directions of air discharge, either clockwise or counter-clockwise rotation, making possible a total of sixteen

TYPE HV FANS)
77% EFFICIENT

different discharge combinations with the same HV Fan.

A new layout of ventilating equipment need not mean bad angles in the duct work or a new fan—the Clarage HV Fan is quickly adapted to the new conditions. Two men in twenty minutes' time at the outside can easily change both direction of air discharge and fan rotation—it is a simple job. Clarage Bulletin 1000 illustrates the sixteen discharge combinations available.

This special side plate construction also allows the fan wheel to be easily removed from the housing for cleaning and inspection, since both cast iron side plates cover openings in the fan housing which are larger in diameter than the fan wheel.

### Double Fan

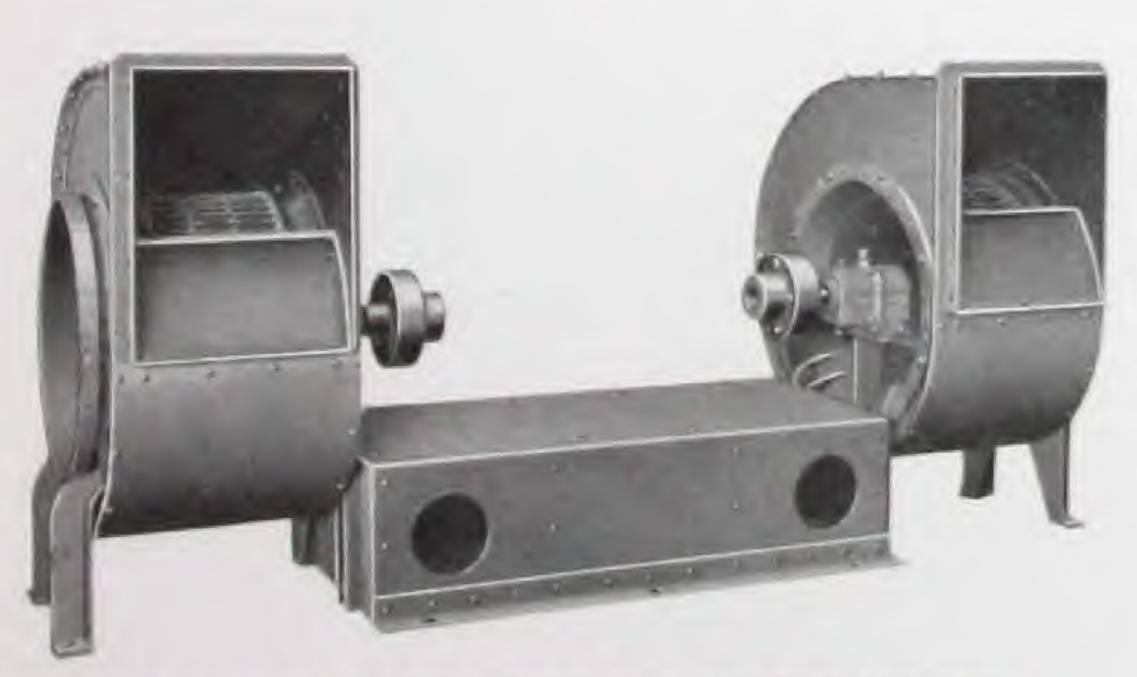
The Double HV Fan, an exclusive Clarage feature, consists of two standard single width fans connected as shown with drive in the center. The unit is regularly built in sizes 1½ to 3, having the cast iron side plate construction. It is principally used where two different directions of air discharge are required, eliminating the necessity for a double discharge fan which cannot offer the same high efficiency. The double fan requires small headroom, another advantage. Capacities are computed as for the standard double width HV Fan.

Detailed Data on sizes  $1\frac{1}{2}$  to 3:

Features of Construction, Pages 13 to 15.

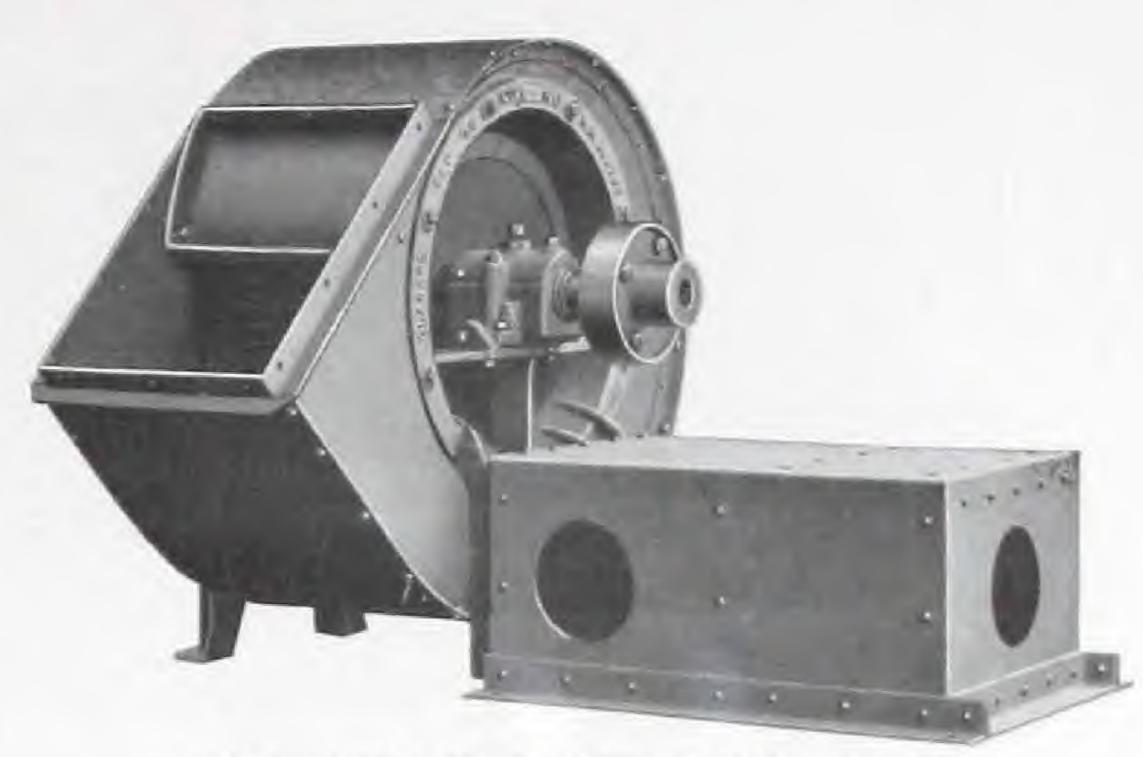
Performance Tables, Pages 20 to 25.

Dimension Charts, Pages 38 to 41.

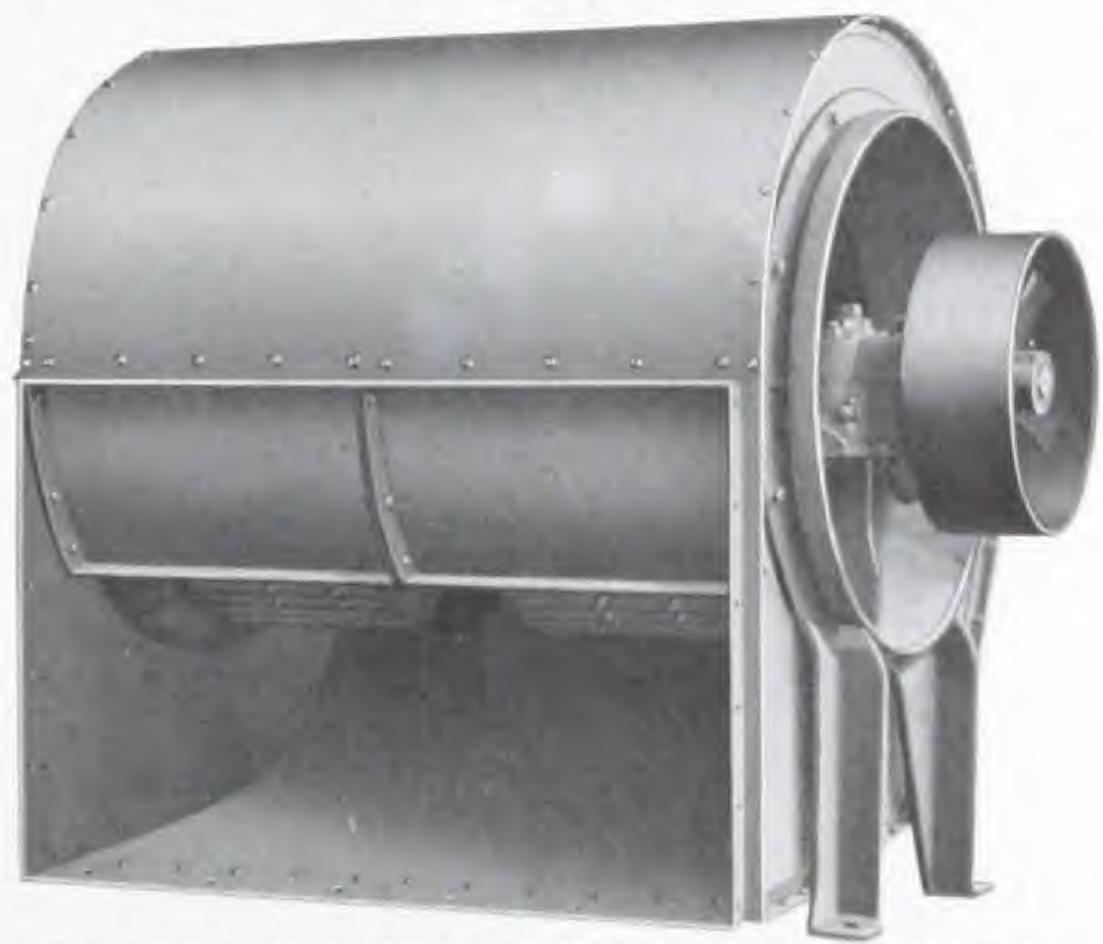


DOUBLE FAN ARRANGED FOR DIRECT MOTOR DRIVE, ARRANGEMENT I

Note: The Double HV Fan is also furnished in Arrangement B for belt drive with pulley in center.



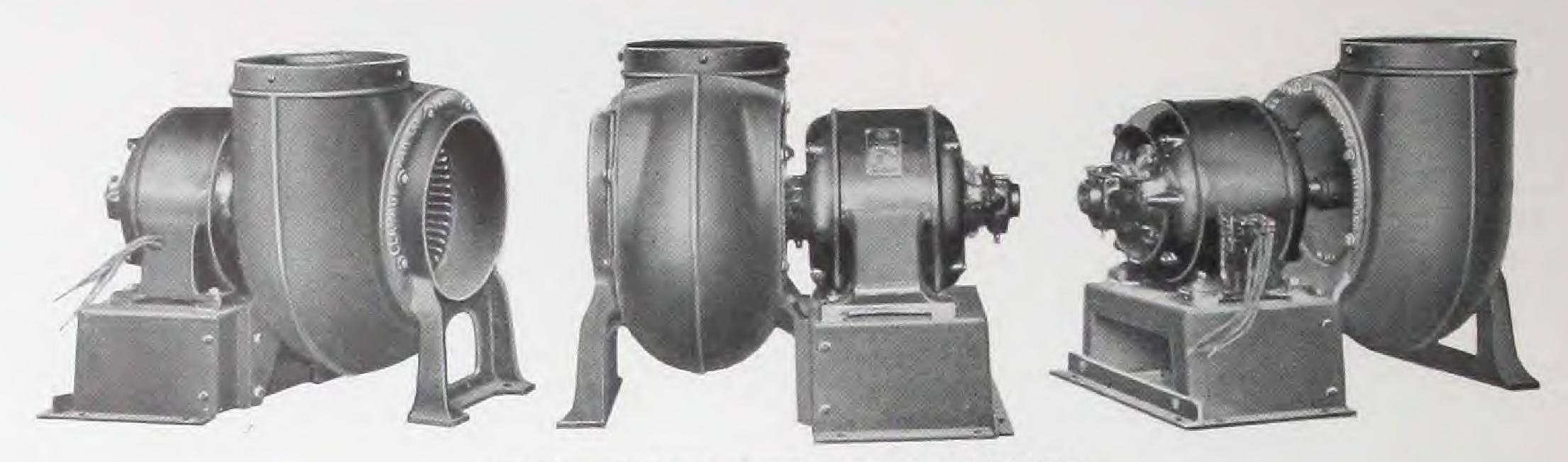
EQUIPPED FOR DIRECT MOTOR DRIVE, ARRANGEMENT G



DOUBLE WIDTH, DOUBLE INLET, ARRANGEMENT A



TYPE HV FANS

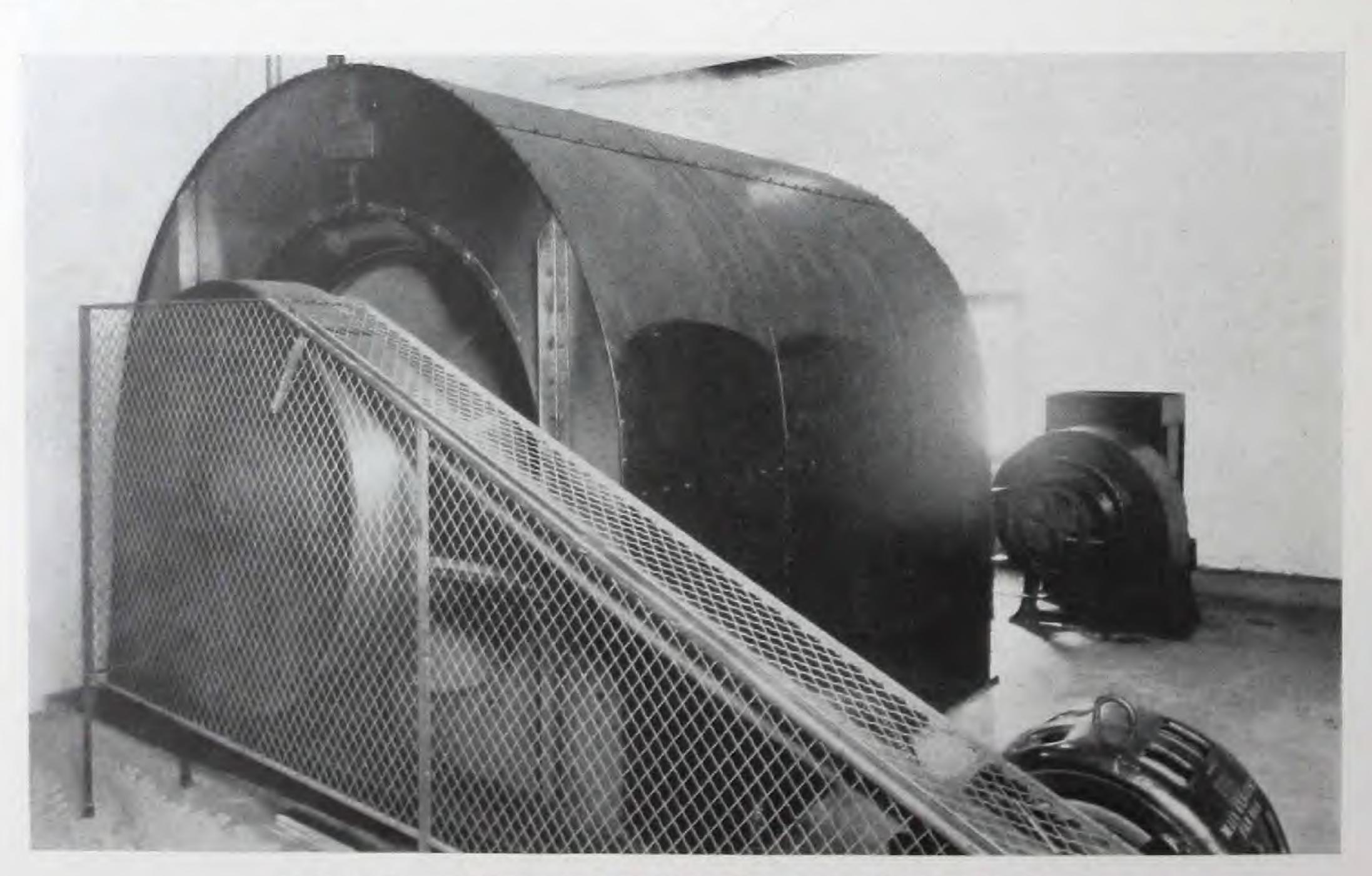


MOTOR DRIVEN UNITS, ARRANGEMENT E

## Type HV Fan—Sizes ½ to 1¼

THE HV Fan in these small sizes is widely used for ventilation work of all kinds—ventilating toilets, telephone booths, cellars, bank vaults, etc., supplying fresh air to small offices and staterooms, and removing fumes from process work and chemical laboratories. It is also used extensively in small cooling and drying installations.

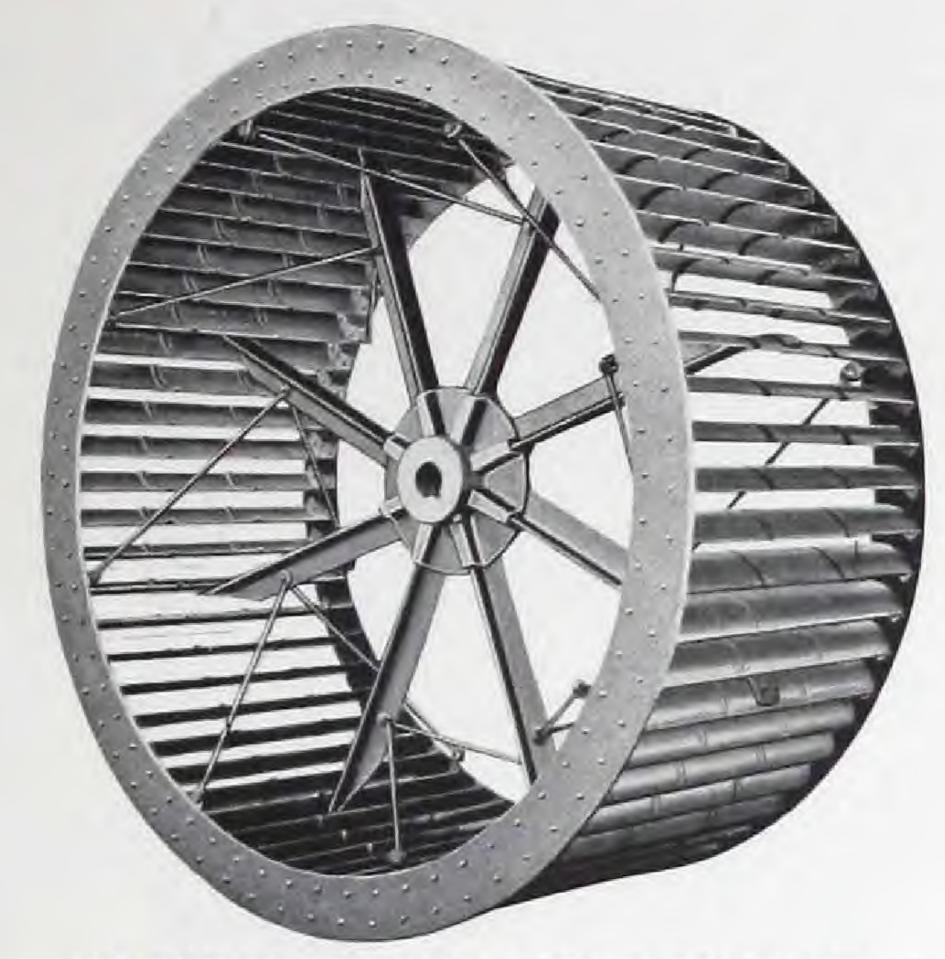
The fan is regularly furnished in Arrangement E for direct motor drive, as shown above, or in Arrangement B for belt drive. It is equally as well designed and as sturdily built as are the larger HV units, offering the same high efficiency, power saving feature. Ask for Bulletin 541, giving complete description and performance tables.



DOUBLE WIDTH HV FAN, UPTOWN THEATRE, CHICAGO, ILLINOIS.

The total Clarage equipment used for ventilation and air conditioning in this magnificent theatre includes eight Type HV Fans and three Type V Washers. It is one of a long list of prominent American theatres now using HV Fans.

TYPE HV FANS)
77% EFFICIENT



HV WHEEL FOR FANS LARGER THAN SIZE 3

—NOTE BRACING



HV WHEEL USED IN FANS SIZES 1½ TO 3 INCLUSIVE

### Features of Construction, Type HV Fan, Sizes 1½ to 9

### Type HV Wheel

THE unprecedented high efficiency, low operating speed and silent performance of the Type HV Fan is due in a large measure to the design of the fan wheel. The HV Fan Wheel consists of a large number of shallow steel blades securely riveted to the side rims. The blades are specially curved and tipped forward in the direction of rotation; their form in conjunction with their number making possible the noiseless delivery of large volumes of air at low pressures with a minimum expenditure of power.

All blades are formed in dies on powerful presses and every blade for a certain size of wheel is identical in form, thickness and weight, and of sufficient strength so that no perceptible deflection will occur even under the most severe operating conditions.

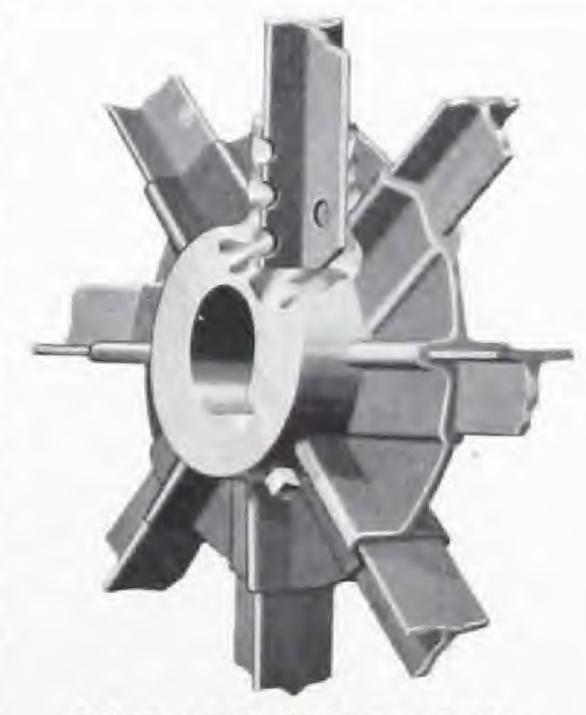
The wheel spider consisting of steel T-arms in a heavy iron hub is cast in an accurately machined metal flask which locates the arms equidistant and in a true plane. This is an excellent feature and a decided improvement over ordinary practice, since with some methods it is often necessary to bend the arms after they are cast in the hub perceptibly weakening the entire spider assembly. As a further safeguard, the part of every T-arm inserted into the cast iron hub is punched along both sides of the flange and through the center of the web to insure that the arms are permanently anchored (see illustration). To loosen an arm from the hub of a Clarage wheel would require the rupture of the hub casting through a

double shear—not even a remote possibility in fan operation.

The wheel side rims are extra heavy to insure rigid support to the blades and, in sizes

No. 3½ and larger, the wheels are rigidly braced by diagonal rods running from rims to spider as shown by the illustration.

The double width, double inlet HV Fan is equipped with two single width wheels, and each wheel is built with back plate but otherwise of standard construction. The back plate permits each wheel



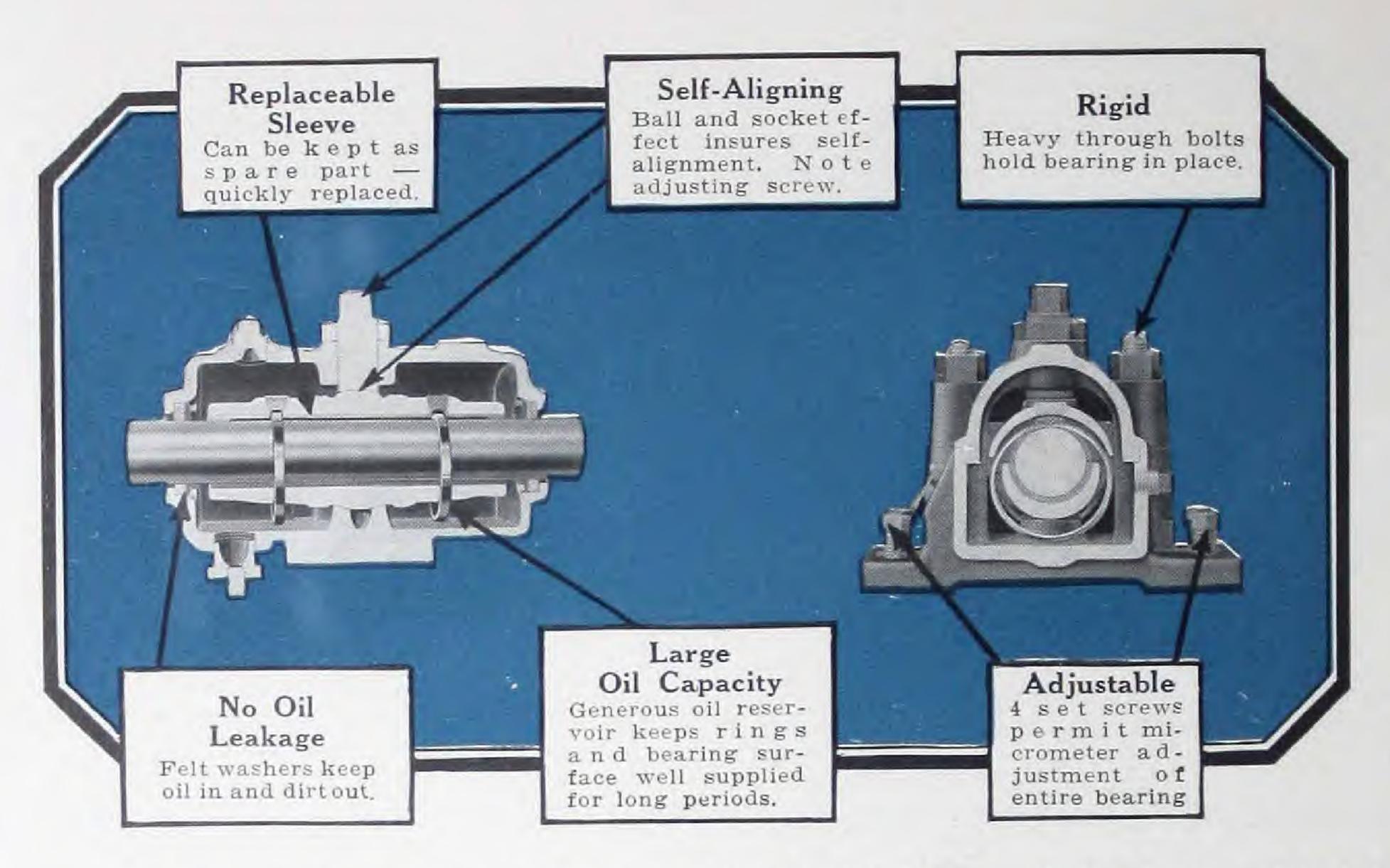
HUB AND SPIDER CON-STRUCTION

to handle its own share of the work, thereby securing more uniform operating results.

Every wheel after assembly is carefully balanced and tested, assuring a true running wheel free from vibration. The wheel is keyed to the shaft and fitted with set screws over the key.

Fan Housing

The housing is built from high quality, blue annealed open hearth steel of heavy gauge, and in the larger sizes is thoroughly braced by riveting to a rigid angle and channel iron frame. Housings for Type HV Fan, size 3 and smaller, are of equally rigid construction and addi-



tional strength is secured by the use of the cast iron side plates.

### Outlet

A Rectangular outlet is furnished which enables the outlet duct to be readily attached with through bolts. An Inlet ring of similar construction is provided for easy attachment to the round intake duct. On sizes  $3\frac{1}{2}$  and larger the housing side bracing is built and punched for attachment of rectangular ducts, if desired.

### Fan Shaft

The fan shaft is made from open hearth steel accurately ground to size, and great care is taken to have it perfectly straight and cylindrical. Each shaft is properly proportioned to insure minimum deflection and to prevent any whipping action of the wheels, allowing the unit to run perfectly smooth.

### Bearings

To a marked degree the established reputation of all Clarage Fan Equipment can be attributed to the high quality of the Clarage Special Bearings with which the Type HV Fan is regularly equipped. They are without doubt the best fan bearings that the market affords.

The Clarage Bearing consists of two distinct and separate parts: the inner sleeve and the outer case. The inner sleeve is split (Clarage feature) and may be easily removed and replaced without removing the fan shaft. This sleeve is held in the case in an adjustable ball and socket support which allows self-alignment in every plane and within large limits. It is

lined with best grade babbitt, and is lubricated by means of two finished oil rings which carry a liberal supply of oil to the large bearing surface from the reservoir below.

The outer bearing case is made in two parts. The upper part or cap is held in place by two bolts and when the nuts are removed may be lifted off, giving free access to the sleeve. The lower part forms an oil reservoir of unusual capacity. For instance, a 115/16 bearing, size 13/4 HV Fan, holds nearly a quart of oil, the other sizes in proportion. Compare this with the few spoonfuls held by most ring oiling bearings and you have a fair conception of the generous proportions along which these bearings have been designed. The whole outer case is built to rest on four set screws for easy adjustment as to height, but when adjusted is held rigidly to the bearing support by heavy through bolts.

Felt washers (exclusive with Clarage), fitting snugly around the shaft at each end of the bearing case, protect against the entrance of dirt and dust and prevent the escape of oil. The Clarage Bearing is, therefore, dust-proof and oil-tight.

### Ball Bearings

At a moderate extra cost the Type HV Fan can be equipped with ball bearings. When specified the well known, dependable SKF Balls and Races are furnished. They are mounted in special cases of Clarage design which have all the desirable aligning and adjustable features mentioned previously in connection with

TYPE HV FANS

Clarage Ring Oiling Bearing Cases. They are of liberal size, dust-proof and oil-tight.

### Oiling Device

Whenever the HV Fan is furnished with a bearing in the inlet an oiling device as shown is furnished as standard equipment. This device permits the bearing to be filled to the proper level from an accessible position outside the duct



The large oil cup enables the oil level to be quickly determined at all times, eliminating any excuse for the bearing running dry. The top of the oil cup is adjusted to the proper level—no oil gauge is necessary, but where specified a standard sight gauge will be furnished at a small additional cost. A drain plug is located just below the filling cup to facilitate draining and washing out of the bearing.

This device is also furnished as standard equipment for the bearing on the drive side of the fan in sizes  $3\frac{1}{2}$  and larger, pulley driven, as otherwise the pulley would interfere with the ease of oiling this bearing.

### Bearing Supports

Bearing supports on the Type HV Fan, sizes No. 3 and smaller, are an integral part of the cast iron side plates. On the larger sizes, heavy steel plate supports, riveted to the housing side bracing and anchored to the foundation, give equally rigid support to the bearings. All bearing supports extend to the floor line, a structural feature worthy of particular attention and offered as standard equipment on Clarage Fans.

Set screws at the sides of the bearing pads, together with height adjusting screws in the base of the bearings, make possible as ready alignment of the bearings and shaft as would adjustable sole plates; through bolts make the adjustment permanent and hold the bearing securely to the seat. True shaft alignment is thus readily made and easily maintained—very important where direct connected drives are used.

### Drives for Type HV Fan—Sizes 1½ to 9

### Pulley Driven

THE pulley driven HV Fan is extensively used in public building work. It is particularly adaptable where variable or unknown requirements are encountered, as the fan speed may be altered by a change in pulley size. Belt drive also makes possible a higher motor speed than if direct connected, with a resultant lower first cost for motors. Where space conditions would necessitate short pulley centers, Texrope, chain or other approved short center drives may be used.

### Direct Motor Driven

The Type HV Fan when direct connected to an electric motor forms a compact unit and is desirable where space is limited. The motor is either mounted on a heavy structural steel pedestal connected to the

fan housing or cast iron side plate, or is mounted on a suitable separate pedestal of concrete built by the contractor or customer. In sizes larger than size 2, at least one fan bearing is furnished, and the motor is connected to the fan by either a solid or flexible coupling as the arrangement requires.

### Engine Driven

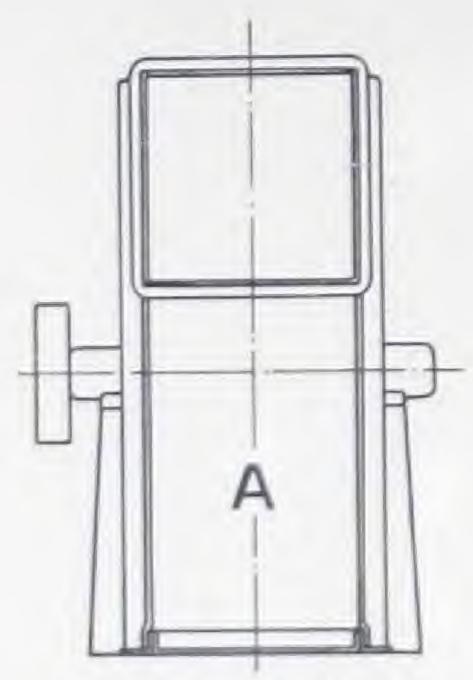
The Type HV Fan direct connected to the Clarage Vertical Steam Engine forms an economical and dependable steam driven unit. Engine drive may be used with steam pressures as low as 25 to 40 pounds, and since the exhaust steam from the engine can be used in the heater stacks without loss of heating value, the cost of operating the fan is negligible. The modern Clarage Engine operates as simply and with as little attention as does the electric motor.

### Standard Arrangements for Type HV Fan

Type HV Fan is furnished in nine Standard Arrangements as shown on the next page. For belt drive it is built single or double width, in Arrangement A; single width in Arrangement B sizes 3 and smaller; single width in Arrangement F sizes 3½ and larger; and as double fan in Arrangements B or F. For direct connection the motor or engine mounted on an integral steel pedestal, the

fan is built single width in Arrangements E, G, H and I; double width in Arrangement G; or as double fan in Arrangements E and I. For direct connection, engine or motor mounted independently, the fan is furnished single width in Arrangements C, D, or F, or double width in Arrangements C. % housed fans, built only in sizes 3½ and larger, are furnished single width in Arrangements A, C, D, and F, and double width in Arrangements A and C.

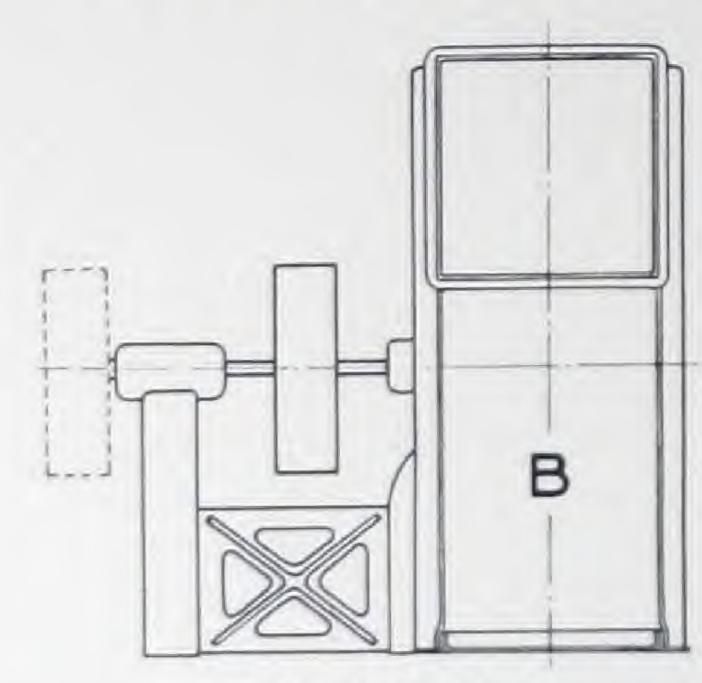
## Showing Standard Arrangements for Type HV Fan— Sizes 1½ to 9



### ARRANGEMENT A

Furnished with housing, wheel, shaft, two bearings and pulley.

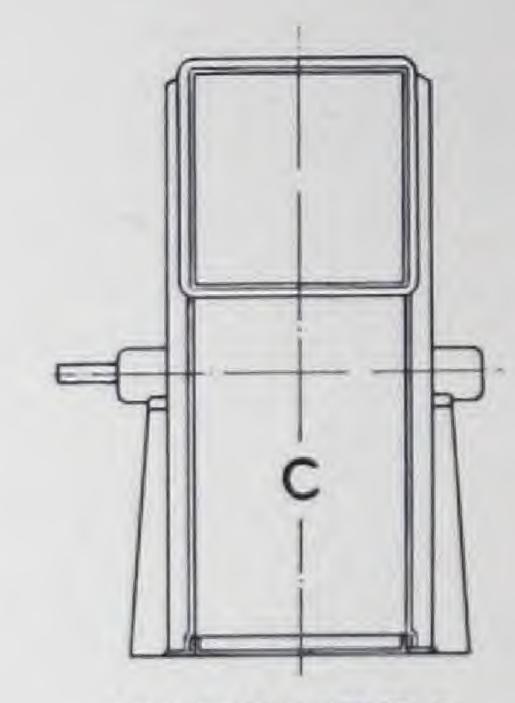
For Belt Drive.



### ARRANGEMENT B

Furnished with housing, wheel, shaft, two bearings on cast iron support and pulley. (Built only up to and including size 3.)

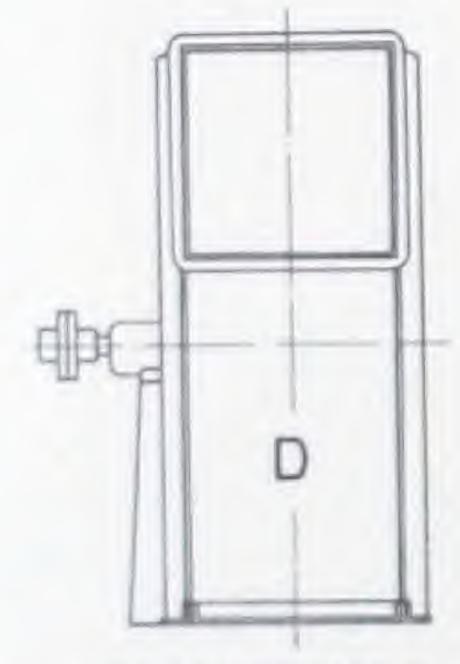
For Belt Drive.



### ARRANGEMENT C

Furnished with housing, wheel, shaft and two bearings.

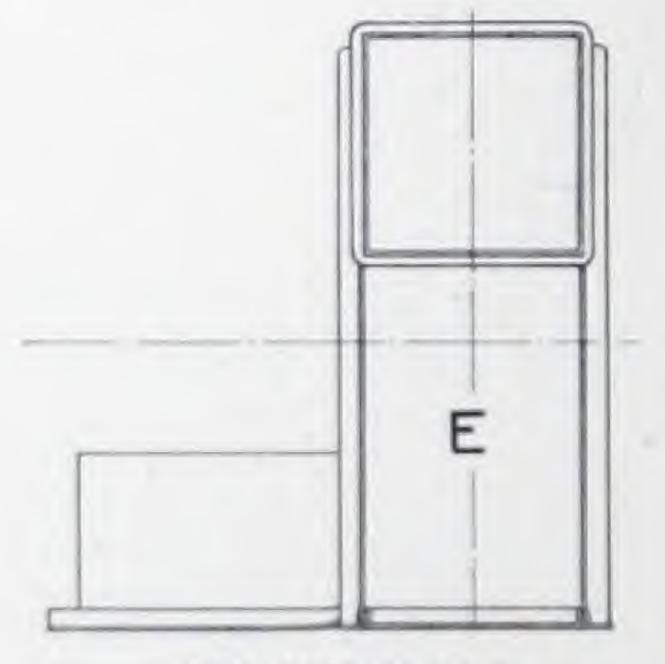
For Direct Connection, Texrope, Chain or other Approved Short Center Drive. Coupling, Special Pulley or Driven Pinion Extra.



### ARRANGEMENT D

Furnished with housing, wheel, shaft, one bearing and solid coupling.

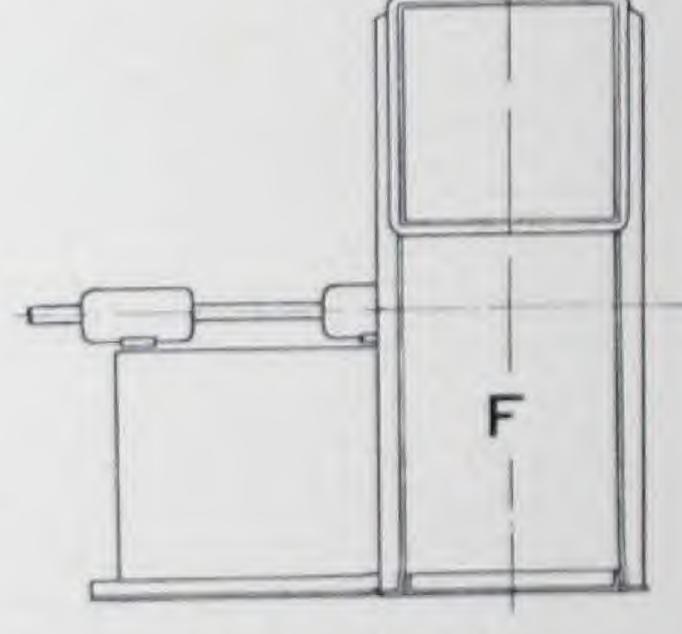
For Direct Drive.



### ARRANGEMENT E

Furnished with housing, wheel, and structural steel pedestal for motor. (Built only up to and including size 236.)

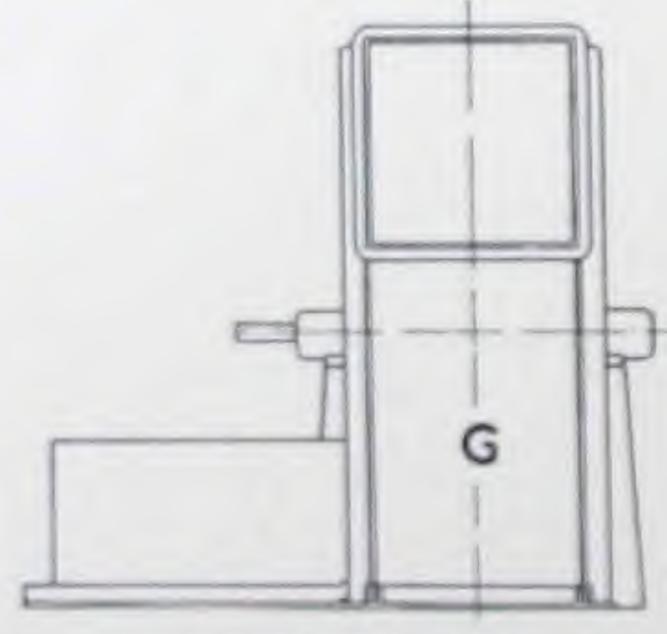
For Direct Drive with fan wheel mounted on extended motor shaft.



### ARRANGEMENT F

Furnished with housing, wheel, shaft, and two bearings mounted on structural steel pedestal. (Built size 3 % and larger.)

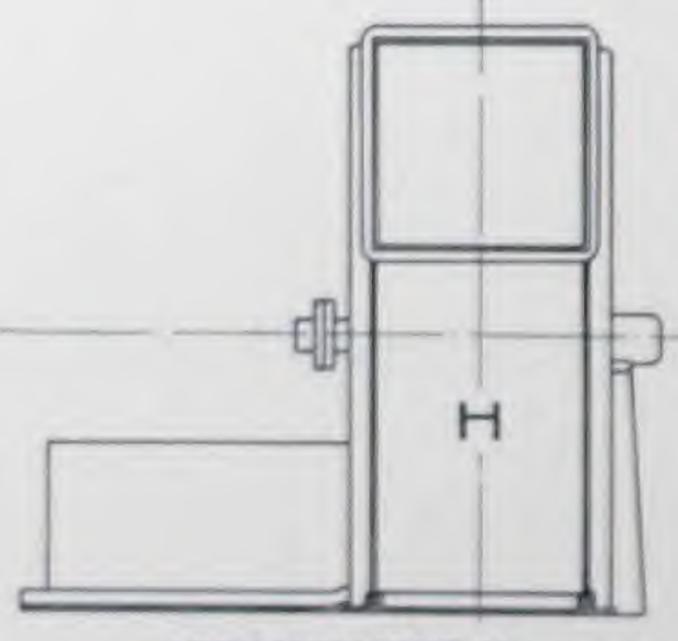
For Belt or Approved Short Center Drive, and Direct Connection. Pulley, Driven Pinion or Coupling extra.



### ARRANGEMENT G

Furnished with housing, wheel, shaft, two bearings and structural steel pedestal for driver.

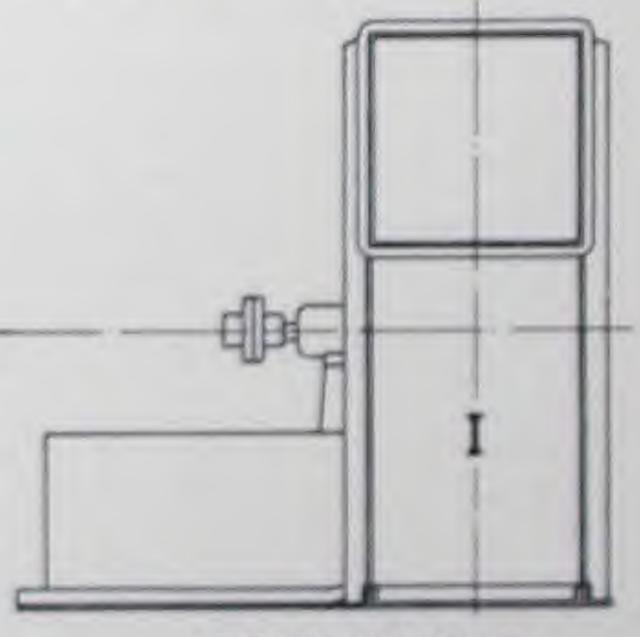
For Direct Drive. Coupling en-



### ARRANGEMENT H

Fornished with housing, wheel, shaft, one bearing, solid coupling and structural steel pedestal for driver.

For Direct Drive.



### ARRANGEMENT I

Furnished with housing, wheel, shaft, one bearing, solid coupling and structural steel pedestal for driver.

For Direct Drive.

(TYPE HV FANS)

## General Data and Weights for Type HV Fan— Sizes 1½ to 9

Single Width Fan — Arrangements A, B, and F

				Dimension Horizontal			Wh	eel	Pulley		Bearing Diam.		Weight in Pounds	
Size	Size	Outside Diam.			Wie	lth		D11			Ann	1	Arm	A ==
Fan	Outlet	of Inlet	Height	Length	Arr. A	Arr. B and F	Diam.	Full Width	Diam.	Width	Arr.	Arr. Band F	Arr.	Arr. Band F
$\frac{1\frac{1}{2}}{1\frac{3}{4}}$ $\frac{2}{2\frac{1}{4}}$	$\begin{array}{c} 14  {}^{3}_{16} x 19  {}^{1}_{16} \\ 17  {}^{5}_{16} x 22  {}^{1}_{4} \\ 19  {}^{11}_{16} x 25  {}^{1}_{4} \\ 22  {}^{1}_{8} x 28  {}^{5}_{8} \end{array}$	$20\frac{1}{4}$ $23\frac{3}{4}$ $27$ $30\frac{5}{8}$	$40\frac{1}{2}$ $46\frac{3}{4}$ $53$ $59\frac{3}{4}$	$30\frac{3}{4}$ $35$ $39$ $43\frac{1}{2}$	$26\frac{3}{4}$ $30$ $33\frac{3}{4}$ $37\frac{1}{2}$	$36\frac{1}{2}$ $42$ $45$ $50\frac{3}{4}$	$19\frac{1}{2}$ $22\frac{3}{4}$ $26$ $29\frac{1}{4}$	$\begin{array}{c} 91_{4} \\ 103_{4} \\ 121_{4} \\ 133_{4} \end{array}$	8 10 14 16	4 4 5 5	$\begin{array}{c} 1_{\frac{16}{16}} \\ 1_{\frac{16}{16}} \\ 1_{\frac{16}{16}} \\ 1_{\frac{16}{16}} \end{array}$	$\begin{array}{c} 1_{\overline{16}} \\ 1_{\overline{16}} \\ 1_{\overline{16}} \\ 1_{\overline{16}} \\ 1_{\overline{16}} \end{array}$	340 440 600 730	400 500 660 825
2 ½ 3 3 ½ 4	$\begin{array}{c} 24 \frac{9}{16} x31 \frac{3}{4} \\ 29 \frac{7}{16} x38 \frac{1}{8} \\ 34 \frac{1}{2} x44 \frac{1}{2} \\ 39 \frac{3}{8} x50 \frac{3}{4} \end{array}$	$34$ $40\frac{3}{4}$ $47\frac{1}{2}$ $54\frac{1}{2}$		$47\frac{3}{4}$ $55\frac{1}{2}$ $65\frac{1}{2}$ $74\frac{1}{2}$	$40\frac{1}{2}$ $45\frac{1}{2}$ $57\frac{3}{4}$ $64\frac{1}{2}$	53 34 62 14 72 77 34	32 ½ 39 45 ½ 52	$15\frac{1}{4}$ $18\frac{1}{4}$ $21\frac{3}{8}$ $24\frac{3}{8}$	18 22 28 36	5 6 6 7	$\begin{array}{c} 1\frac{11}{16} \\ 1\frac{15}{16} \\ 2\frac{3}{16} \\ 2\frac{7}{16} \end{array}$	$\begin{array}{c} 1_{16}^{11} \\ 1_{16}^{15} \\ 2_{16}^{15} \\ 2_{16}^{7} \end{array}$	900 1230 1700 2150	1750
4½ 5 5½ 6	44 1/4 x 57 1/8 49 1/8 x 63 1/2 54 1/8 x 70 59 x 75 1/4	68 75	$101\frac{1}{2}$ $112\frac{3}{4}$ $124\frac{1}{4}$ $134$	$\begin{array}{r} 83\frac{1}{4} \\ 92\frac{1}{4} \\ 101\frac{1}{2} \\ 110\frac{1}{2} \end{array}$	70 ½ 78 83 ½ 92 ½	$\begin{array}{r} 82\frac{1}{2} \\ 96\frac{1}{4} \\ 99\frac{1}{2} \\ 112\frac{1}{4} \end{array}$	58 1/2 65 71 1/2 78	$27^3 s$ $30^3 s$ $33^3 s$ $36^3 s$	42 48 54 62	7 8 8 10	2 11 2 15 3 16 3 16 3 16 3 16	2 11 2 16 3 16 3 16 3 16 3 16	2650 3200 3750 4270	2750 3350 3975 4800
6 1 2 7 7 1 2 8	687,x821/2 683,4x89 735,x951/2 781/2x1011	95 102	$146\frac{3}{4}$ $157\frac{3}{4}$ $168\frac{3}{4}$ $179\frac{1}{4}$	$119\frac{1}{2}$ $128\frac{1}{2}$ $137\frac{1}{4}$ $146\frac{1}{2}$	98 14 105 111 1 <sub>2</sub> 118 1 <sub>4</sub>	$\begin{array}{c} 119\frac{1}{4} \\ 130\frac{1}{4} \\ 136\frac{1}{2} \\ 148 \end{array}$	84 ½ 91 97 ½ 104	$\frac{393}{421_2}$ $\frac{451}{2}$ $\frac{481}{2}$	68 74 80 86	10 12 12 14	$\frac{3}{16}$ $\frac{15}{16}$ $\frac{15}{4}$ $\frac{15}{16}$ $\frac{15}{4}$ $\frac{7}{16}$	3 15 4 76 4 16 4 16 4 16		7200 9500 10400 12600
81/2	83 ½x108 88 3 8x114 ½	116 2122	$\frac{192}{203}$	155 ½ 164 ¼	12734 134	166 180	$\frac{11012}{117}$	$\frac{5115}{5412}$	92 98	16 18	4 10 4 10	$\frac{5}{5} \frac{7}{16}$		14800 17000

Note: Fans built in Arrangement B up to and including size 3; in the larger sizes in Arrangement F instead of B.

### Double Width $Fan-Arrangement\ A$

Size	Size	Outside	Extreme D Top Ho	imensions for rizontal Disc	Full Housed harge Fan	One V	Vheel	Pul	ley	Bear. Diam.	Weight in Pounds
of Fan	of Outlet	Diam. of Inlet	Height	Length	Width	Diam.	Full Width	Diam.	Width		
$1\frac{1}{2}$ $1\frac{3}{4}$ $2\frac{1}{4}$	29 ½ x 19 ½ 34 3 x 22 ½ 34 ½ x 25 ½ 44 ½ x 28 5 8	$20\frac{1}{4}$ $23\frac{3}{4}$ $27$ $30\frac{5}{8}$	40 ½ 46 ¾ 53 59 ¾	30 34 35 39 43 1 <sub>2</sub>	4214 4714 58 5834	191 <sub>2</sub> 223 <sub>4</sub> 26 291 <sub>4</sub>	$9\frac{1}{4}$ $10\frac{3}{4}$ $12\frac{1}{4}$ $13\frac{3}{4}$	8 10 14 16	5 6 6	1 16 1 16 1 16 1 16 1 16 1 16	490 610 760 925
21 <sub>2</sub> 31 <sub>2</sub> 4	48 16 x 3134 58 16 x 3818 685 8 x 4412 783 8 x 5034	34 4034 4712 5412	6534 7834 7934 9032	4734 5512 6512 7416	$65\frac{1}{2}$ $76\frac{3}{4}$ $94\frac{3}{4}$ $107\frac{1}{4}$	$32\frac{1}{2}$ $39$ $45\frac{1}{2}$ $52$	$15\frac{1}{4}$ $18\frac{1}{4}$ $21\frac{3}{8}$ $24\frac{3}{8}$	18 22 28 36	7 8 8 10	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1125 1700 2500 2425
41/2 51/2 6	88½x 57½ 97½x 63½ 107¾x 70 117½x 75¼	61 68 75 81 1 <sub>2</sub>	$101\frac{1}{2}$ $112\frac{3}{4}$ $124\frac{1}{4}$ $134$	$\begin{array}{c} 83\frac{1}{4} \\ 92\frac{1}{4} \\ 101\frac{1}{2} \\ 110\frac{1}{2} \end{array}$	$118$ $129^{3}4$ $141^{3}4$ $154$	5834 65 7134 78	273 s 303 s 363 s	42 48 54 62	10 12 12 14	2 15 3 15 3 16 3 18 3 18	4450 5550 6740 7950
61 <sub>2</sub> 71 <sub>2</sub> 8	127 <sup>1</sup> 4x 82 <sup>1</sup> 2 137 x 89 146 <sup>3</sup> 4x 95 <sup>1</sup> 2 156 <sup>1</sup> 2x101 <sup>1</sup> 2	88 ½ 95 102 109	$\begin{array}{r} 14634 \\ 15734 \\ 16834 \\ 17934 \end{array}$	$\begin{array}{c} 119 \stackrel{1}{\cancel{1}}_{2} \\ 128 \stackrel{1}{\cancel{1}}_{2} \\ 137 \stackrel{1}{\cancel{1}}_{4} \\ 146 \stackrel{1}{\cancel{1}}_{2} \end{array}$	$\begin{array}{c} 167 \\ 177 \\ 19134 \\ 20419 \end{array}$	8436 91 9736 104	$\frac{393}{421_2}$ $\frac{451_2}{481_2}$	68 74 80 86	10 18 20 22	4 16 4 16 5 16	9100 11700 12800 15440
812	1663 x108 1761 x114 2	116 122	1921 <sub>4</sub> 203	155 1 2 164 1 4	219 1 i 235 1 i	110 1 <sub>2</sub> 117	5112	92 98	24 26	5 16 6 76	18700 22000

Note:-All Dimensions given in both tables are in inches.

# Standard Specifications on Type HV Fan, Sizes 1½ and Larger, for Use of Architect and Engineer

1.—Furnish and erect where shown on plans a No.\_\_\_\_\_ Clarage Type HV Multiblade Fan (single or double) \_\_\_\_\_ inlet; (single or double) \_\_\_\_\_ width, having a capacity of \_\_\_\_\_ cubic feet of air per minute against a resistance (static pressure) of \_\_\_\_\_ inches water gauge. This fan shall operate at approximately \_\_\_\_\_ R. P. M., with a velocity through the fan outlet not to exceed \_\_\_\_ feet per minute and a maximum horsepower not greater than \_\_\_\_\_.

2.—The housing shall be built of \_\_\_\_ gauge steel plate (or cast iron) rigidly braced with \_\_\_\_ angle irons (or cast iron side plates) secured in an approved manner.

Tables of gauges and bracing depending upon size.

Size of Fan	Gauge of Housing	Method of Bracing
1 % to 3	No. 14 No. 13	Cast iron side plates 2"x3"x¼" angles
4 to 7	No. 12	12"x3"x¼" or 12½"x3½"x¼" angles
6% to 8	No. 11	1 2 1/4 "x 3 1/4" x 1/4" or 1 3" x 4" x 1/10" angles 3" x 5" x 3/4" angles

3.—The wheel shall consist of a suitable cast iron hub and T-iron spider cen-

Furnish and erect where shown is a No.\_\_\_\_ Clarage Type HV of blades curved forward in the direction of rotation and riveted to annular steel plate rings or side rims. Wheels 45½ having a capacity of \_\_\_\_ cubic air per minute against a resistance rods bolted from spider arms to rims.

They shall be accurately balanced and shall run without noise or vibration.

4.—The bearing shall consist of two distinct parts, the inner babbitted sleeves and the outer case. The inner sleeves shall be split and easily removed or replaced without disturbing the shaft. At each end of the outer case felt washers shall be placed to prevent oil from being drawn out or the dirt from getting in. Lubrication shall be obtained by two oil rings. The bearing shall be securely bolted to a support which extends to the floor line and shall be self-aligning and self-adjusting in a vertical and horizontal plane.

There shall be provided a suitable oiling device so that the bearing in the inlet may be oiled outside of the air flow.

 The shaft shall be of open hearth steel, key seated, ground and polished to exact diameter.

(TYPE HV FANS)

### Performance Tables, Pages 20-37

THE Performance Tables are computed from tests conducted strictly in accordance with the Standard Test Code. They are guaranteed by the Clarage Company for standard conditions—air at 70 degrees Fahrenheit and at barometric pressure of 29.92 inches.

The horse power ratings given are net. In determining the size of motor or engine required an allowance should be made to safeguard against the possibility of overloading the driver. It should also be noted that even at a constant speed it is possible to deliver a much larger volume, when the pressure against which the fan operates is less than estimated, and that under such conditions the power requirement is increased.

The pressures which the fan must maintain depend upon the resistance offered to the flow of the air by the piping system, heater coil, air washer, etc.

For Typical Installations figure as follows for static pressures:

Public Buildings:

Ventilation only, 3/8" to 1/2".

Heating and Ventilating, 1/2" to 1".

Heating and Ventilating with Air

Washers, 3/4" to 11/4".

Factories or Similar Buildings:

Heating, 34" to 1½", Average 1¼". Heating and Ventilating with Air Washers, 1¼" to 2".

The double width, double inlet HV Fan delivers twice the volume of air at the same speed and same pressure as does a single width, single inlet HV Fan of corresponding size, taking twice the brake horse power to drive. When figuring double width fans always use the Performance Tables given for single width, single inlet fans. Note example which follows.

Example:

No. 3½ Single Width, Single Inlet HV Fan (see Table top of page 26.)

Volume-15,825 C. F. M.

Pressure-1-inch S. P.

Speed-233 R. P. M.

Brake Horse Power-3.80 B. H. P.

No. 31/2 Double Width, Double In-

let HV Fan.

Volume-

15,825 C.F.M.  $\times$  2 = 31,650 C.F.M.

Pressure—1-inch S. P.

Speed-233 R. P. M.

Brake Horse Power-

 $3.80 \text{ B.H.P.} \times 2 = 7.60 \text{ B.H.P.}$ 

### Dimension Charts, Pages 38-46

THE Dimension Charts furnish detailed information for Clarage Type HV Fans in such arrangements and for such directions of discharge as are most commonly used in ventilating and air conditioning work. These dimensions which are necessary and essential to

the planning and the laying out of a fan system have been included. While the dimensions given are sufficiently accurate for all preliminary work, they should not be used for construction purposes. At the time an order is received certified drawings will be furnished.

### Clarage Engineering Service

IF THE information contained in this Reference Book does not solve your problem, ask for the co-operation of a Clarage engineer. With Sales Engineering Offices in all principal cities, the Clarage Company is pre-

pared to give you prompt, authoritative service. Without obligation, a Clarage engineer will submit a complete recommendation and cost estimate covering equipment to meet your requirements.

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HV Fan,
HV Fan,
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Type HV Fan,
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Type HV Fan,
Type HV Fan,
Type HV Fan,
Type HV Fan,
Type HV Fan,
Type HV Fan,
No. 11/2 Type HV Fan,
Vo. 11/2 Type HV Fan,

. P.	В. Н. Р.				2.60 2.71 3.00	3.37	4.69 5.23 5.90
3.5	P. M.			955	951 951 951	955 965 977	995 1010 1034
S. P.	В. Н. Р.			1.90	22.23	2.91 3.29 3.68	4.70
2 15"	P. M.			868	864 864 870	883 895 913	932 951 980
٦,	В. Р.			1.46	1.73 1.86 2.17	010100 00000 00000	4 27 2 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4
03	P. M.			7775	775 780 790	804 824 848	873 902 932
S. P.	В.		1 21	1.28	1.69	32.23	23.00
136.1	. W.		731	726 726 726	735	770 790 814	833 902 902
P	B. T. P.		1.02	1.13	1 42 1 51 1 78	22 09 22 46 2 85 85	8 8 4 2 29 4 28 4 2 29
116" S.	R. M.		676	676 676 683	690 700 716	733	810 844 876
Р.	B. T. P. E		808.	1.01	21 52 TG	6 2 3 3 6 2 3 3 6 2 3 3	3 10 4 18
1.4 S.	R. M. E		614	628	634 617 668	691 720 750	780 814 850
	B. P. P	¥G 4G	6.00	927-6	1.09	2 04	02.00 00
1" S. P.	R. M. E	54.9	549	559 569 579	594 603 628	657 683 715	745 785 819
d'	B. P. F	47	50.00	910	1 32	1 60 1 94 2 33	3.20
18:18	R. M.	919	516 520 526	5355	567	6838	725
7	B. P. P	3.8	A1010	74	0000	10 00 01	
N." S	R. M.	477	484	520	5 6 5 8 5 8 8 8	623 634 681	
b.	B.	M 10	54.0	175	1 175	1.44	
1,5 m	R. M.	4.33	448 451 467	180	5533	8.65	
ъ.	B. P.	100	50.00	689	1.83	1.36	
N. 18	R. M.	3337	412 426 438	465	496 510 544	878	
. P.	B. P.	2000	1007	9.28	Dr 30		
147. 8	P. M.	345	378 192 107	652			
R. P.	n.	10 10 01	25.50	325			
W. S. P.	P. M.	362	200 pg 52 pg	407			
Outlet	Velocity Faet per Min.	1000	1300	1500	22000	2500	3200
	Valuence C. F. M.	2.322		75.00			00 min

. P.	В. Н. Р.			* / 1	2.36 2.48 2.71	3.04	4.80
50	R. W.				935	917 917 925	937 950 965
S. P.	B. T. P. F			1.83	1.94 2.07 2.32	3.62	2 8 8 4 8 8 8 4 8 8 8 8
2127	R. M. I			843	8337	837 848 859	873 491 908
Р.	В. Р. ]			1.48	1.59 1.71 1.94	2.27 2.62 2.97	3.39
52	R. M.			758 755 750	750 750 754	761 774 792	833
S. P.	В. Н. Р.		1.08	1.21	1.51	2 .38 2 .38 2 .73	3.14
134"	R. P. M.		206	700	700 7100	720	780 804 824
S. P.	В. Н. Р.		79	1.08	1.26 1.36 1.61	1.88 2.21 2.58	2 96 3 41 3 88
1350	P. M.		6553	650 650 650	654 657 668	682 705 725	7750
S. P.	В. Н. Р.	. 62	73	1.02	1.12	1.73 2.01 2.37	3.20
134.5	P. M.	603	598 594 594	594 594 598	603 610 625	643 667 691	745
S. P.	В. Н. Р.	47	. 66	81.89	1.09	1.55 1.81 2.17	22 52 33
1.8	R. P. M.	533	55.53.53	539	565	605 627 652	707
S. P.	В. Н. Р.	4.0	920	74.00	1.21	1 75	2 42
187.8	P. M.	500	500 500	510 513 523	531 543 562	589 614 641	687
S. P.	В. Р.	38.00	5.50	688	1.13	1.36	
38.17	P. M.	461	461	486	515	5594	
S. P.	H. P.	2,50.50	20 4 20	6.0	1 055	1.28	
200	P. M.	4222	432	451	482 490 514	544	111
S. P.	B. H. P.	23	335	556	79	1.20	id
150	P. M.	03 C 53 C	388 397 407	421	457	530	1
S. P.	B. B.	2 50 5	21 22 E	500	910		
95.0	P. R.	3335	3653	388 403 416	4411		
S. P.	H. P.	116	2000	88	95		
1.75	P. M.	282 292 304	320	353 373 386	103	131	
Outlet	Peet per Min.	11000	1300	1,500	22000	2500	3200
	C. F. M.	1.935	2,963	3,096 3,289 3,488	2,859	5,643	5,804 6,191 6,578

faced type indicates the most efficient point of operation for each pressure

Pressure, 29.92 inches; Weight, . Temperature, 68 F.;

Inlet
Single
Width,
Single
Fan,
HV
Type
13/4
No.

. P.	В. Н. Р.		* * * *	3.37	3.53 4.08	4.58 5.08 5.67	6.38 7.11 8.05
3'' S.	R. P. M.			820	816 816 816	818 827 837	854 866 887
S. P.	В. Н. Р.			2.58	2.93 3.11 3.50	3.95 4.48 5.00	5.67 6.40 7.20
235"	P. M.			744	740 740 745	757 766 782	799 815 841
. P.	В. Н. Р.			1.98 2.08 2.24	2.34 2.53 2.95	3.37 4.43	5.06 5.80 6.58
2'' S.	P. M.			665	665 668 677	690 707 727	748 773 798
S. P.	В. Н. Р.		1.63	1.74 1.84 1.98	2.11 2.29 2.69	3.11 3.55 4.13	4.74 5.40 6.25
134"	R. P. M.		627	6222 6222 6222	631 634 647	660 677 698	719 744 773
S. P.	В. Н. Р.		1.27	1.55 1.66 1.77	1.92 2.05 2.42	21 cc cc 22 cc cc 22 cc cc	4.48 5.13 6.00
1,15"	P. M.		580	580 585 585	592 600 614	631 651 672	695 723 750
S. P.	В.		1.00 1.08 1.16	$\frac{1.26}{1.53}$	1.66 1.79 2.11	2.55 3.03 3.56	4.88 4.88 5.68
114"	R. M.		527 527 527	530 538 538	543 554 571	594 618 644	669 698 728
Р.	В. Н.Р.	7.4	90	1.06 1.19 1.32	1.48 1.61 1.92	2 32 2 77 3 29	3 87 5 27 5 27
1" S.	R. P. M. J	471	471 471 478	480 487 497	508 517 538	564 585 614	639 672 702
S. P.	В. Н. Р.	. 64	72 79 87	1.08 1.24	1.34 1.50 1.79	2 17 2 63 3 16	3.69
2811 8	R. P. M.	437	442 446 451	459 466 476	487 500 521	547 572 597	651
S. P.	В. Р.	.52	.73	1.00 1.12	1.25 1.38 1.71	2 08 3 08 3 08	
34" S	R. M.	408	415 420 428	437 446 454	467 479 504	534 560 584	
S. P.	В. Н. Р.	.50	.56	.79	1.15 1.29 1.58	1.95 2.37	
8 8/9	R. P. M.	372	382 387 400	412 420 432	444 457 483	513	
S. P.	В. Н. Р.	.39	. 54	93	1.06	1.84	
35 8	P. M.	336	353 365 375	387 398 412	424 437 467	496	
S. P.	В. Н. Р.	32	. 48	.74	1.10		
2.80	R. P. M.	296 304 317	324 336 349	362 377 391	403		111
S. P.	В. Н. Р.	25. 25. 29	.43	.56			
17.	R. P. M.	259 269 281	293 307 319	333 349 365	4		
Outlet	Velocity Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3400
	C. F. M.	2,630 2,893 3,156	3,419 3,682 3,945	4,208	00 00 00	883	89

# No. 13/4 Type HV Fan, Single Width, Double Inlet

Ъ.	В.				3.21	4.13 4.66 5.18	6.52
i	- Y	111		1 7 1	0470	70 00 4	4100
3/	P. P.	111	111	111	780	788	800
S. P.	В. Н. Р.			2.48	2 63 2 81 3 16	3.55 4.08 4.60	5.89
212"	R. M.			722	720 718 718	718 727 735	748
Ъ.	B. F. 1			1.78	22.32	83.08 4.03 55.03	5.27
2'' S.	R. M. F		1 . 1	650 647 642	642 642 642	653 664 679	693
٦.	B. P. P.		1.46	1.55	1.91 2.05 2.41	2.84 3.24 3.71	4.95
134" S.	R. M. E		605	009	600	618 632 648	699
Ъ.	В.		257	1.35 1.46 1.58	1.71	3.50	4.63
112" S.	В. М. Н		588 1	556	63	20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	642
ь.	B. P.	00 00	93	38 57 57	. 51 62 50 50 50 50 50	2.34 5	3.76 6
114" S.	R. I	1.7	113	009 1	23 23 1 37	93 22 2	338
-	P. P.	69	755 90 50 50 50	21 55 55	34 76 55 55	955.55	95 6
S. P.	B. H.					01 01 01	e0 e0 =
1.0	R. P. M.	461	4557	462 462 471	479 484 501	538 560	584
S. P.	В. Н. Р.	54	74	1.00	1.34	22 37 2 84	3.29
28.7	R. P. M.	428 428 428	4 4 4 5 5 5 5 8 5 5 5 5 8 5 5 5 5	442	455 465 482	504 526 550	571
S. P.	В. Н. Р.	. 53 . 53	. 73	. 82 1 . 02	1.13 1.25 1.54	1.84 2.26 2.71	
34.1.8	R. P. M.	395 395 395	395 398 403	412 416 425	433 442 465	488 510 534	
S. P.	В. Н. Р.	43	. 66	22.83	1.04 1.16 1.42	2 11	
S : 30	R. M.	361 361 361	365 370 378	387 395 403	413 420 441	467	
F. P.	В. Р.	31	5.53	.75	1.07 1.32	1.63	
3.5. S	R. M.	319 324 327	3333 340 349	361 370 382	392 403 429	454	
, P.	B. H. P.	2,000	46.53	.75	. 87 1. 24		
S. S.	E. M.	25825 29825 2942	303	3333 345 356	365 378 390		
ъ.	B. T. P.	2222	33	60	76		
15" S.	R. P. M.	242 250 261	224 2382 294	303 319 331	345	111	
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200
Volume	F. M.	2,630 2,893 3,156	3,419	4,208	4,997 5,260 5,786	6,312 6,838 7,364	8,416

NOTE The black faced type indicates the most efficient point of operation for each pressure.

: Temperature, 68°F.; Pressure, 29.92 inches; Weight, .0

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Ъ.	В. Р.			4.35	4.63	6.01	8.35 9.33 10.6
, po	. W.			717	7113	715 724 731	745 757 775
S. P.	В. Р. Г			3.38	3.83 4.08 4.59	5.18	7.42 8.40 9.42
212"	R. M.			650	647 650	661 670 683	698 713 735
Ъ.	B. F. J.			22.53	3.31	4.42 5.04 5.81	6.63 7.60 8.63
53	. W.			584 580 580	580 584 591	603 617 635	654 676 698
P.	B. T. P. I		2.14	2223	3.00	4.08	6.21 7.10 8.18
184" S.	R. W.		547	544 544	5551	578 591 610	628 650 676
F.	B. 1. P. I	1 1 1 1	1.80	2.00	2 52 8 69 8 1.8	3 73 4 38 5 08	5.87
1,6,, 8	R. M. I		507	507 507 512	517 524 536	551 569 588	632 656
ni l	B. F. F.		1.52	1 86 1 80 2 00 2 00	20010	3 35	5.53 6.39 7.43
13g" S.	R. M. E		460	463	475	518 539 562	585 610 636
P	B. P. P	2.6	1.04	1 38	2010	3.04	5.08 6.04 6.90
18	R. M. B	411	4111	418 426 433	444	492 511 536	5588 614
4	B P	800	1.04	1 1 2 8 2 1 2 8 2 1 1 1 2 8 2 1 1 1 1 1	0 t-10 t-00 t-00	4 2 85	5.70
1 N 1 S	R. M. E	382	386	400	424	477	568
a'	B. P. P	9.50	982	1.31	1 64 1 81 2 24	4 35 2	
8 3	R. M. E	922	367	382	419	489	
4	B. P. P	60.00	9223	1 04	1000	53.53	
S	R. M. F	324	338 338 350	3678	33.53	448	
à.	B. F.	56	20118	10.01	1 550	54	
16/18	R. W.	294	308	3338	3371	433	
'A'	B.	49.03	985	1.97	1 28		
N. S.	P. M. J	258	2883	323	353		
S. P.	H. P.	922.8	299	2.88 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1			
8 79	P. M.	2226	10 00 00 10 00 00 01 00 00	30.4			
	Velocity Fort Per Min.	1000	1300	1,500		2400 2600 2800	3200
	Volume C. F. M.	3,440	4.472	000	10.00.10	66 (2) (7	

No. 2 Type HV Fan, Single Width, Double Inlet

P.	B. H. P.		* * * *		4.40	5.40 6.10 6.80	7.65 8.55 9.48
37.50	R. M. F				700 695 688	688 688 694	702 713 724
Р.	В. Р. Р			3.25	3.69	4.65 5.34 6.03	6.82
2 ½ 7 S.	R. M. H			632	629 627 627	627 635 645	654 669 680
. 2	B. P.			63	. 03	4.65	6.90
. S	R. M. H			68 22 22 63 22	63 22 2 3 3 3 3	570 580 595	607 625 640
F.	B. P.		91	03 5	69 5	233	5.58
3 . S.	M. H		1 62	255 22 22 22 23	3255	552 552 565 4	584 603 618
P. 1	B. P. P.		53	91 5	24 5	34	5.27 6.06 6.90
12" S.	R. M. H.		90 1	187 1	189 2	528 528 544 4	561 580 698 698
P. 1	8. P. P.	10	19 . 29 . 40	52 65 4 81 4	98 4 2 2 2 4 5 7 5 5 5 7 5	3.06	5.68 5
114 S.	R. I M. H.	51	48 1	145	152 157 2 169 2	483 500 3 518 4	5589 4
P. 1	B. P. P.	903	98 4 07 4	2.20	1.76 4 1.93 4 2.31 4	33.73	5.17
1., S. 1	R. M. H	003	400	404 1	423	452	523
Ъ.	В. Р. Р.	711 4	922	1.31	1.62 1.76 2.15	3 10 3 72	4.30
18	R. H	-1-1-1	7.7.2	3886	398 407 421	460	200
P.	B. P.	5.9	20.00	1.33	1.48	2 96 3 54	-
14.7 S.	R. H.	3450	55 55 55 75 55 55 75 55 55	363	378 386 407	445	
7.	B. P.	6.50	869	1 21	1.86	250	111
38,18	R. M. H	316	319	338	3857	430	111
ď.	B. P. P	547	76	988	1.28	20 14	111
18 S.	R. M. F	2279	293 298 305	323	3242	397	
. P.	B. H. P.	188	25.05	888	1 24	111	
N. S.	P. M. I	10 10 10 10 10 10 10 10 10 10 10 10 10 1	283	291 302 311	3330		
. P.	B. H. P. I	14 10 10 14 10 10	622.1	98.	8		
N 8 P.	P. M.	2223	2338	2566	301		
Outlet	Peet Peet Min.	1000	1,400	1,000	1,900	2400	32000
-	C. F. M.	3.784	4,816	5.504	6.880	8.256 8.944 9.632	0.320 1.008

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

Pressure, 29.92 inches; Weight, . 68°F.; Temperature,

Inlet	
Single	
Width,	
Single	
Fan,	
HV	
Type	
21/4	
No.	

S. P.	В. Н. Р.				5.84 6.10 6.75	7.57 8.40 9.35	10.6 11.8 13.3
3,78	R. P. M.			635	631 631 <b>630</b>	634 641 648	650 670 687
S. P.	В. Н. Р.			4.27	4.83 5.14 5.79	6.53 7.40 8.27	9.35 10.6 11.9
212"	R. P. M.			577	573 573 577	586 593 605	618 631 651
P.	В. Н. Р.			3.27 3.44 3.70	3.88 4.19 4.88	5.58 6.35 7.32	8.36 9.58 10.9
2" S.	P. M.			518 514 514	514 518 524	534 547 563	579 599 619
S. P.	В. Н. Р.		2.70	3.05	3.48 4.44 4.44	5.14 5.88 6.84	7.84 8.93 10.4
134" 8	P. M. 1		485	481 481 481	488 490 501	511 524 540	557 576 599
S. P.	B. F. I		2.09	2.53 2.74 2.92	3.18 3.40 4.00	4.70 5.53 6.40	7.40 8.50
112" S			448	448 448 453	458 464 475	488 503 520	537 559 581
S. P.	B. T. P. P		1.92	2.26 2.53	2.74 2.96 3.48	4.23 5.00 5.88	5.97 8.05 9.37
114" 8	. W.		407 407 407	410 410 417	420 430 443	459 477 497	504 540 564
Ъ.	В. Р. Р	1.22	1.31 1.48 1.61	1.74 1.96 2.18	2.44 2.66 3.18	3.83 4.58 5.45	6.40 7.62 8.71
1" 8.	R.	364	364 364 369	371 378 384	394 400 417	437 453 475	490 521 543
. P.	В. Р. Р	1.05	1.18 1.31 1.44	1.61 1.79 2.05	2.22 2.48 2.96	3.59 4.35 5.23	6.10
78" S.	R.	338	341 345 349	354 360 368	376 387 403	423 443 462	482 504
Р.	В. Р. Р	. 96	1.07 1.20 1.31	1.48 1.66 1.85	2.07 2.29 2.83	3.44 4.23 5.10	* * * *
34" S.	R. M. I	315	321 325 332	338 345 351	361 371 390	413 433 453	
ъ.	B. H. P.	. 74	1.03 1.18	1.31 1.48 1.68	1.90 2.13 2.61	3.22	
58" S.	R. P. M. J	287	296 299 310	319 325 334	344 352 374	397	
. P.	B. H. P.	70	.81 .90 1.05	1.20 1.35 1.53	1.74 1.96 2.50	3.05	
1/2" S.	R. P. M.	260	273 282 289	299 308 319	328 338 361	384	
S. P.	В. Н. Р.	. 53	.79	1.09	1.61	4 4 4	
3/8/1	R. P. M.	229 236 244	250 260 270	280 292 302	312		
S. P.	В. Н. Р.	.33	. 70	92 1.11 1.26	* * * *		
14" 8	R. P. M.	200 208 217	226 237 247	258 270 283			
Outlet	Velocity Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
	F. M.	4,350	5,655 6,090 6,525	ರ ಬ ಬ ಯ	26	4.65-	0.67

# No. 21/4 Type HV Fan, Single Width, Double Inlet

	0.1	7 ( )	* * *		1880	33	7280
S. P.	B. H. F				6.13	8.7.8	9.6 10.8 12.0
2,50	R. P. M.	* * * *		+ + + + + + + + + + + + + + + + + + +	621 615 609	609 610 615	624 633 643
다.	B. P. I		1 1 1	11.1	4.35 5.22	5.88 6.75 7.62	9.75
1,2" S.	M. H	111	7 7 3		00 10 10	1042	048
2	P. R	* * *	111	33.56	55 55	0 55	22 58
S. P.	B. H. I			0.00	ಬಲು 4	6.6	7.6
20	R. P. M.			504 502 498	498 498 501	506 515 526	5538
S. P.	B. P.		2.41	2.57 2.72 2.94	3.15 3.43 3.98	4.70 5.35 6.14	7.05
134" S	R. M.		697	465 465 465	465 473	478 490 502	534
P. 1	Р.		94	411	. 61	97	. 66
oi	. В И. Н.	* * *	2 2 2	200	61000	2 2 4 4 5 5 5 5 5	870-
11/2"	R. P. M.		7 43	20 8 43 8 43 43 43 43 43 43 43 43 43 43 43 43 43	0 4 4 4 4 4 4 4	7 2 45 0 48 0 48	3 49 2 51 2 53
S. P.	B. H. P	1.3	1.5	122	2000	60 44 ro 90 rg go	6 7 2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
11/4"	R. P. M.	400	394 394 394	394 394 397	400 405 415	428 443 459	479
Р.	. P.	1.05	1.24 1.35 1.48	1.63 1.81 2.00	2.22 2.44 2.92	3.48 4.05 4.88	5.65
1'' S.	R. E. H.	55	07 07 07 07 07 07	888	7.7.2	01 17 33	52 69 99
	P. P.	. 83 00 00 83	111 33 33 33 33 33 33 33	866	222 33 33 33 33 33 33 33 33 33 33 33 33	31 92 4 70 4	44
S. P.	B H.				0,0101	w w 4	
78.1	R. P. M.	333	3322	3339 343 348	353 361 374	391 408 426	443
S. P.	В. Н. Р.	8.1	1.20 1.20	1.35	1.87 2.07 2.55	3.05 3.74 4.48	
3411 8	R. M.	306 306 306	306 309 313	313 322 329	335 342 361	378 395 414	
P.	В. Р. Р	.70	98.00	3275	92	48.	
. S S.	З. М. Н	0880	83 87 93	00 06 13 13	21 26 12 42 2	81 3	
		50 59 59 28 68 28 68	78 87 28 96 29	05 42 42 33 33 33	61 76 33 18	07 : :	4 9
S. P.	B H.		- 17171			64	
1/5/1	R. P. M.		258 264 270	280 287 296	304 313 332	352	) ; ; ; ; ; ;
P.	В. Н. Р.	.48	.87	.98 1.11 1.24	1.44 1.57 2.05		
38" S.	. W. I	223 228 228	235 242 251	258 267 276	284 293 316		-
Δ,	B. P.	.85. 25. 44.	. 55	98.	1.24		
14" S.	ж. М. Н	88 8 7 20 20 20	11 19 28	57 1	67		1 1
74	. H.	202	2222	0,000	5 : 5	2.7.1	1.1
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200
Volumo	C. F. M.	4,350	5,655 6,090 6,525	6,960 7,395 7,830	8,265 8,700 9,570	10,440 11,310 12,180	13,050

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

": Temperature, 68°F.; Pressure, 29.92 inches; Weight, .6

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P. 38" S.	B. R. R. F. P. M. I	.41 207 .50 213 .59 221	.72 227 .86 236 .00 245	1.13 254 1.37 264 1.56 274	283		
Р.	B. J.	. 51	.86 .97 1.13	1.35	1.99 2.24 3	00	
12" S. P	R. B M. H.	36	47 56 1. 62 1.	71 79 1. 89	97 06 27 3	48	
5, 5,811	P. P. M.	78 260 86 265	00 10 271 29 280	48 289 67 295 88 303	15 311 42 319 10 339	77 359	
S. P.	В. Н. Р.	1.03	1.13	1.62 1.83 2.07	22.23 46.23 23.23	4.85	
34" S	R. B. M. I	286	291 294 300	306 312 318	327 336 354	374 392 409	
<u>ا</u>	B. I. P. P	1.05	1.32 1.48 1.62	1.83 2.05 2.29	2.56 2.83 3.50	4.25 5.23 6.30	
78" S.	R. H.	306	309 1 312 1 316 1	321 1 326 2 333 2	340 351 365 3	383 400 419 6	436 7
P. 1	B. F. F.	. 25	.45 .62 .78 .88	.23.	.75 .07 .66	.45 .45 .45 .45	88.
" S. P.	M. H.	30 1.	30 1. 35 1.	36 42 48 22 22 48	56 62 3 77	95 4 10 5 30 6	47 7 71 9 92 10
11/4"	P. P. J.	51	.83 36 .99 36	.15 37 .42 37 .69 37	01 28 38 38 93 40	.73 41 .65 43 .73 45	.90 46 42 48 .8 51
S. P	д. В. И. Н. Е		988	7 2 2 2 3 2 3 1 2 3 1 2 3 1	0.8 9.8 0.8 8.8	5 5.2 6.1 00 7.2	0 8. 9 10. 0 111.
11/2"	P. M.	* * *	1 407 17 407	30 407 2 410	39 415 36 421 31 430	22 442 18 456 27 472	61 487 0 507 6 527
' S. P.	В.		2.58	8000 1.000	8 4 4 9 9 9	70.00 20.00 20.00	9.1 10.5 12.3
134"	R. P. M.	* * * *	437	2 436 9 436 1 436	3 436 0 443 5 454	2 463 5 474 0 489	5 504 521 541
S. P.	В. Н. Р.	T	3.34	3.55 3.77 4.04	4.31 4.68 5.50	6.35 7.27 8.45	9.69 11.0 12.8
2'' S.	P. M.			468 465 465	465 468 475	483 495 510	525 541 554
P.	В. Р. ј			4.03	4.79 5.17 6.02	6.90 7.85 9.05	10.4 11.9 13.5
2½" S.	R. M. I			521 518	518 518 518	530 537 548	560 571 589
. P.	B. T. P. I			5.28	5.98 6.35 7.15	8.05 9.15 10.2	11.6 13.1 14.7
3″ S.	. W. H	* * *		575	571 571 570	573 580 1 586	598 1 607 1 621 1

٦.	В. Н. Р.				6.56 6.88 7.52	8.44 9.52 10.6	13.4
3'' S.	R. W.	1 1 4 1 7 4 1 1 5			561 555 550	5550 5551 5555	563
S. P.	B. H. P.			5.08	5.37 5.75 6.45	7.26 8.33 9.41	12.1
21/2"	R. W.			909	504 502 502	502 509 515	535
. P.	В. Н. Р.			3.63 3.87 4.11	4.40	6.29 7.26 8.22	9.41
2" S.	R. P. M.		+ + + + + + + + + + + + + + + + + + +	455 453 449	449 449 452	457 465 475	485
S. P.	В. Н. Р.		2.98	3.36	3.90 4.19 4.92	5.81 6.62 7.58	8.71 10.1
134"	R. P. M.		424	420 420 420	420 420 428	433 443 454	469
S. P.	В. Н. Р.		2.55	2.74 2.98 3.23	3.49 3.76 4.46	5.21 6.13 7.15	8.23
11/2"	R. P. M.	* * * * * * * * * * * * * * * * * * * *	392	390 390 390	392 394 402	410 424 435	450
S. P.	В. Н. Р.	1.72	1.86 2.02 2.18	2.37	3.09	4.78 5.60 6.57	8.87
134"	R. P. M.	362	355 356 356	356 356 359	362 366 376	387 400 415	432
ъ.	В. Н. Р.	1.29	1.53 1.67 1.83	2.02 2.23 2.47	2.74 3.01 3.60	4.30 5.00 6.03	8.07
1" S. P.	R. P. M.	322	320 320 320	323 323 329	335 339 351	362 376 392	408
S. P.	В.	1.02 1.10 1.24	1.37 1.51 1.67	1.85 2.04 2.28	2.52 2.74 3.36	4.08 4.83 5.81	6.72
78" S. P.	R. P. M.	302 300 300	300 300 302	306 310 314	319 326 338	353 368 384	400
S. P.	В. Н. Р.	1.08	1.21	1.67 1.88 2.07	2.31 2.55 3.14	3.76 4.62 5.54	::
34" 5	R. P. M.	276 276 276	276 279 282	288 291 297	303 309 326	341 356 374	
S. P.	В. Н. Р.	.76 .86 .97	1.08 1.21 1.37	1.51 1.69 1.88	2.12 2.36 2.90	3.55	111
28.11	R. P. M.	253 253 253	255 259 265	271 276 282	289 294 309	326	
S. P.	В. Н. Р.	. 73	1.07 1.19	1.34	1.99 2.18 2.69		
15"	R. P. M.	224 226 229	233 238 246	253 259 267	274 282 300	318	
S. P.	В. Н. Р.	.68	1.08	1.21	1.94	+ + + + + + + + + + + + + + + + + + +	
38" S.	R. P. M.	198 201 206	212 219 226	233 241 250	256 265 285		
S. P.	В. Н. Р	.540		1.08	1.53		11
14"	R. P. M.	169 175 182	191 198 206	212 224 231	241		::
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200
Tolumo	C. F. M.	5,370 5,907 6,444	6,981 7,518 8,055	8,592 9,129 9,666	0,203 0,740 1,814	2,888 3,962 5,036	6,110

-The black faced type indicates the most efficient point of operation for each pressure

Temperature, 68°F.; Pressure, 29.92 inches; Weight, Standard

Inlet
Single
Width,
Single
Fan,
HV
Type
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No.

P.	B. T. P.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2.0	6.7	00 00 00 00 00 00
3" S.	P. M. F			478	476 1 476 1 476 1	478 483 1	498 505 518 2
S. P.	В. Н. Р.		* * * * * * * * * * * * * * * * * * * *	7.60	8.60 9.16 10.3	11.7	16.7 18.9 21.2
21/2"	R. P. M.	* * *		433	432 432 435	441 447 457	466 476 491
S. P.	В. Н. Р.			5.81 6.12 6.59	6.90 7.45 8.70	9.95 11.4 13.1	14.9 17.1 19.4
2'' S	R. P. M.			00 00 00 00 00 00 00 00 00	388 390 395	403 412 424	437 451 466
S. P.	В. Н. Р.		4.81	5.11 5.43 5.81	6.20 6.75 7.90	9.13 10.5 12.2	15.0 15.9 18.4
134"	R. P. M.		365	365 365 365	368 370 377	385 395 408	420 434 451
S. P.	В. Н. Р.		3.72	4.46 4.85 5.20	5.63 6.00 7.13	8.37 9.83 11.4	13.2 15.2 17.7
11/2"	P. M.		00 00	338 338 341 341	345 350 358	368 380 392	405 421 438
S. P.	В. Н. Р.		2.95 3.14 3.41	3.72 4.03 4.46	4.85 5.27 6.20	7.52 8.90 10.5	12.4 14.4 16.7
134"	R. P. M.		306 306 307	309 309 314	317 324 334	346 360 375	390 407 425
S. P.	В. Н. Р.	2.17	22.33	3.10 3.48 88.88	4.34 4.73 5.65	6.78 9.68	11.4 13.6 15.5
1,,	R. P. M.	275	275 275 275	280 285 290	297 302 314	328 342 358	372 392 409
S. P.	В.	1.86	2.33	2.87 3.18 3.64	3.95 4.42 5.27	6.40 7.74 9.29	10.9
18/1	. P. M	255	257 260 3 263	4 267 5 272 9 277	8 283 8 292 5 304	3 319 0 334 6 348	363
S. P.	B. H. P	1.51	1.90 2.13 2.33	22.2	84.0 80.0	6.15 7.50 9.00	
34"	. P. M	238 239	3 242 2 245 0 250	3 255 4 260 8 265	7 272 0 280 5 294	4 312 8 326 341	
S. P.	В. Н. Р	1.3	1.85	2000	80 80 4 90 90 90	6.9	
28/2	. P. M	3 217	4 223 9 226 6 234	4 240 0 245 1 252	0 259 9 266 5 282	3 299	
S. P.	B. H. P	1.1	4.0.00	222	छ छ <b>य</b> ⊢ यं यं	5.4	
35"	P. M.	196 196 196 19 201	206 0 213 3 218	7 228 7 233 2 241	22 255 273 273	290	111
S. P.	B. 1. H. P	3 3	1.6	22.2	\$1 00 \$2 00		
3877	P. P. M	58 72 178 35 184	24 196 13 204	33 211 38 220 25 228	243		
. S. P.	й. Н. 1	54	1 9 1.2 7	24.8 0.1 0.2			
34"	P. R.	151	171 178 187	195 204 213	111		
Outlet	Velocity Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3200 3400
	Volume C. F. M.	7,740 8,514 9,288	10,062 10,836 11,610	12,384 13,158 13,932	14,706 15,480 17,028	18,576 20,124 21,672	23,220 24,768 26,316

# Fan, Single Width, Double Inlet

P.	В. Н.	* * *			9.47 9.95 10.9	13.2	17.2
3′′ S.	R. M.				467 462 457	457 458 462	468 475 482
S. P.	B. T. P. I			7.32	7.75 8.30 9.32	320.0	4.7.6
21/2" S	R. M. F			421	420 419 419	419 423 1429	436 1 446 1 454 1
Ъ.	B. H. P. I			5.58	6.35 6.82 7.75	9.08 0.5 1.9	2000
2. S.	R. P. M. 1			377 377 374	374 374 376	380 387 396	404 1 416 1 426 1
S. P.	B. H. P. J		4.30	4.84	5.61 6.05 7.09	8.38 9.55	2.6
134" 5	R. P. M. 1		354	350 350	350 350 356	360 368 377	390 402 412
S. P.	B. H. P. J		3.45	3.95 4.30 4.65	5.04 5.42 6.43	7.51 8.85 10.3	5.73
1327 8	R. P. M. 1		327	3255	327 329 334	341 353 363	375 387 1
S. P.	B. H. P. I	. 4 . 8	2.67 2.90 3.14	3.41 3.72 4.07	4.45 4.77 5.78	6.90 8.07 9.47	11.11
114" 8	R. H.	302	300 298 298	298 298 300	301 306 312	322 333 346	372
Ъ.	В. Н. Р.	1.86	2.21 2.40 2.63	2 .91 3 .22 3 .57	3.95 4.34 5.19	6.20 7.20 8.70	110.1
1" S.	R. P. M.	268	266 266 266	269 269 274	279 282 292	302 314 326	353
S. P.	В. Н. Р.	1.47 1.59 1.78	$\frac{1.98}{2.17}$	2.67 2.95 3.29	3.95 4.84	5.90 6.98 8.38	9.70
3 1182	P. M.	252 250 250	250 250 252	255 258 261	265 271 281	294 307 320	333
S. P.	В. Н. Р.	1.32	1.75 1.94 2.13	2.40 2.71 2.98	80.4 80.0 80.0	4.43 6.67 7.99	
34" 8	R. P. M.	230 230 230	230 232 235	240 242 247	2552 258 272 272	284 297 312	
S. P.	В. Н. Р.	1.09 1.24 1.40	1.55 1.75 1.94	2.17 2.44 2.71	3.06 3.41 4.19	5.12	
100	R. P. M.	2111	213 216 221	222 2330 2355	241 245 257	272 287	
S. P.	В. Н. Р.	1.05 1.20	1.38 1.54 1.71	1.94 2.21 2.56	2.87 3.14 3.87	4.81	
120	R. P. M.	186 189 192	194 199 204	211 216 223	233 235 250	265	
S. P.	В. Н. Р.	70 86 97	1.17 1.36 1.55	1.75 1.98 2.21	2.56 2.79 3.64		
28.6	R. P. M.	165 168 172	183	194 201 208	213 221 238		
S. P.	В. Н. Р.	.78	1.17 1.36	1.55	2.21		
34.	P. M.	141 146 152	159 165 172	177 187 193	201		
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3400
Johnma	F. M.	7,740 8,514 9,288	0,062 0,836 1,610	2,384 3,158 3,932	4,706 5,480 7,028	18,576 20,124 21,672	23,220 24,768 26,316

The black faced type indicates the most efficient point of operation for each pressure. NOTE

Temperature, 68°F.; Pressure, 29.92 inches; Weight, .0

# =(CLARAGE)=

Inlet
Single
Width,
Single
Fan,
HV
Type
31/2
No.

. P.	В. Н. Р.			13.2	13.7 14.3 15.9	17.7 19.8 22.2	25.0 28.2 31.7
. S	R. P. M.	* * * *		416	414 410 407	<b>404</b> 407 410	416 425 433
is is	В. Н. Р.			10.3	11.5 12.2 13.5	15.2 17.3 19.9	22.4 25.4 29.0
212"	R. P. M.			378	374 370 370	370 375 382	391 399 412
S. P.	В. Н. Р.			8.19 8.70	9.25 10.1 11.5	13.1 15.1 17.5	20.1 23.0 26.1
2.,	P. M.			3336	3332	338 346 357	366 388 388
S. P.	В. Н. Р.		6.35	6.65 7.13 7.65	8.25 8.98	12.2 14.1 16.4	19.0 21.7 24.6
134"	P. M.		313	309 309	309 309 315	323 342 342	353 366 376
S. P.	В. Н. Р.		5.02	5.70 6.23 6.77	7.30 8.15 9.50	10.9 12.9 15.0	17.6 20.3 23.2
135"	R. P. M.		2889	286 286 286	2588 2590 2598	307 317 328	338 351 364
S. P.	В. Н. Р.		4.23	5.02 5.39 6.01	6.55	10.3 12.2 14.2	16.6 19.0 21.8
114"	R. P. M.		265 263 261	261 263 265	269 271 282	292 303 315	328 340 353
S. P.	В. Н. Р.	2 90	3.17	4.23	6.35	9.25 11.0 12.8	15.0 17.5 20.4
1.5	R. P. M.	236	70 7	235 240 244	248 253 263	275 286 300	311 325 338
S. P.	B. H. P.	2.54	3.49	3.96 4.28	5.28 6.02 7.18	8.75 10.5 12.5	14.5
100	P. M.	219	219 219 223	2222	238 244 254	280 280 295	305
S. P.	B. H. P	2.32	2.48	4.44	4.96 5.50 6.75	8.25 9.90 11.7	
200	F. M.	204	204 206 210	215 219 223	227 233 244	256 271 284	
S. P.	В. Н. Р.	1.59	22.54	2017	5.06	9.30	
200	P. M.	185	195	202 206 210	223 235 235	248	
S. P.	В. Н. Р.	1.53	100 100 200 488	38.80	4.12	7.13	
150	P. M.	166 168 170	174 178 183	199	222	23	a - 1
S, P.	B. H. P.	1.27	1.69	010100			
384	P. M.	147 149 153	160 164 170	1.83	202		111
a si		1.22	1.43	010101	1 4 4		
150	P. M.	1326	143	466			
Outlet	Velocity Feet per Min.	1000	52 45 KD	@ 1 - 0	000	2400	0014
	F. M.	0,550 1,605 2,660	fe fe or	8000	104	0100	2007

No. 31/2 Type HV Fan, Single Width, Double Inlet

				* * *		-	10
P. P.	В.		: : : :		12.9 13.6 14.8	16.6 18.7 20.8	23.5 26.2 29.1
3", S.	".X.		: 1 :		400 397 393	393 393 397	402 408 413
Р.	В. Р. Р			0.0	0.6	6.3	9.9
12" S.	M. H			61.1	60 1 59 1 59 1	59 63 1 68 1	174 182 289 289
67	P. P.		111	13 61 .: 08	67 30 30 6	400	2000
S. P.	H. H.		4 4 4	r-r-00	8 6 0 1	112.	21.3
2,7	P. M			3233	3233	326 332 339	347 357 366
S. P.	В. Н. Р.		5.87	6.23 6.60 7.13	7.66 8.24 9.67	11.4 13.0 14.9	17.1 19.9 22.7
134"	R. P. M.		303	300	300	309 316 323	334 344 353
S. P.	В.		4.70	5.40 5.87 6.34	6.87 7.40 8.77	2.1	16.2
1257	R. M. H		279	278	279 281 286	292 302 1 311	321 332 343 2
P. 1	P. P.	200	96 2 2 2 2 2	65 22 2	50	.00.	-iró-i
si i	M. H.		6 4 4 3 3	44 9 9 9 9 9 9	11 6	6 9 6 11 6 12	9 15 9 17 12 20
134	P. P.	25	1 25 8 25 9 25 25	86 25 25 25 25 25 25 25 25 25 25 25 25 25	25 01 26 08 26 08 26	15 33 28 3 3 29 3	8 9 33 5 33
S. P.	В.	22	0.000	0.44	4.0.7	8.4 9.8 11.9	13.8
1,,	P. M.	230	229 229 229	231 231 235	240 242 250	259 269 279	292 303 318
Ъ.	В. Н. Р.	2.01 2.17 2.43	2 70 2 96 3 28	3.65 4.02 4.50	4.97 5.40 6.60	8.05 9.50 11.5	13.2
78" S.	R. M.	216 214 214	214 214 216	218 221 225	228 233 241	252 263 275	286
ь.	B. I. P. I	1.79	2.38 2.64 2.91	3.28	4.54 5.02 6.19	7.40	
34 ' S.	R. M. F	197	197 199 202	208 208 212	216 221 233	254	
P.	В. Р. Р	69	2 38 2 38 2 64	2.96 3.33 3.70	4.65	8.45	
S. S.	A. H.	831	855	93	07 10 21	46	
n.	P. P.	22 43 1 64 1	88 09 1 32 1	64 1 1 43 2	2000	52.53	
S.	M. H.	024	201	0100	0040	5	- 1 1
1.6	P. R.	2651	9 16	8 18 9 18 1 19	8 13 0 20 6 21	52	- 1 1 1
S. P.	В. Н. Р	1.3	1000	0.010	400		
38.0	R. P. M.	141 144 147	151 156 162	167 173 178	183 189 204		1 X 2 2 X X 2 X X
. P.	В. Р.	.77 .85 1.06	1.32	2 38	3.01	111	
14" S.	R. M.	121 125 130	136	151 160 160 166	173		
Outlet	Feet Feet per Min.	1000 1100 1200	1300	1600 1700 1800	2200	2400 2600 2800	3200
1	C. F. M.	10,550 11,605 12,660	13,715	16.880 17.935 18.990	20,045 21,100 23,210	25,320 27,430 29,540	31,650 33,760 35,870

NOTE The black faced type indicates the most efficient point of operation for each pressure.

Temperature, 68 F.; Pressure, 29.92 inches; Weight,

TYPE HV FANS) 77% EFFICIENT

Inlet
Single
Width,
Single
Fan,
HV
Type
7
No.

	P.	B.	* * * *		2.3	9.6	0.9.0	10 00 4
1	3, S.	M.H			64 17	62 59 18 55 20	53 23 59 25 59 29	64 32 71 36 79 41
-	P.	P. P.	1111	1 1 1		000 400	6000	0112
1 9	ri l	1. H.	* * *	1 1 1	13	15.	13 22 25	333.
	212	P. M.	1 1 1		3331	327 324 324	324 329 334	342 349 360
	S. P.	В. Н. Р		+ + +	10.1 10.7 11.4	12.1 13.1 15.0	17.1 19.7 22.9	26.2 30.1 34.0
	2,,	R. P. M.			294 292 290	239 290 292	296 303 312	320 331 340
	S. P.	В. Н. Р.		8.28	8.70 9.30	10.8 11.7 13.5	15.9 18.4 21.4	24.8 28.3 32.1
	134"	. W.		274	272 270 270	270 270 276	282 290 299	320 320 320
-	д.	B. F. P.		6.55	7.45 8.13 8.82	9.24 2.4	2 8 9 9	0.00
	1½" S.	R. M. E		252	250 250 250	52 54 1 61	68 78 1 87	96 07 18 32
-	d.	В. Р. Р		.93	. 55	30 4	4000	F 80 90
	1¼" S.	R. M. H	* * *	232	28 30 7 32 7	36 8 38 9 46 11	55 13 65 15 76 18	87 21 98 24 09 28
-		Б	62	14 49 27 22	52 07 62 22 22	1 28 1 22 22 22 23	411	3000
	S. P.	M. H.		444	660	10.87	15.	19 22 26 3 26
-	1,,		206	204 204 204 204	206 210 214	2217	240 250 262	272 284 293
	S. P.	В.	3.31	4.55	5.17 5.60 6.20	6.90 7.87 9.40	11.5 13.7 16.3	19.2
	1811	R. P. M.	191	191 192 195	$\frac{197}{204}$	208 213 223	2233 245 255	267
	S. P.	В. Н. Р.	3.03	3.24 3.72 4.14	4.69 5.24 5.80	6.50 7.18 8.85	10.8 13.0 15.5	
	34" 5	R. P. M.	179	179 180 184	188 191 195	199 204 213	224 238 248	* * * *
-	Ъ.	В. Н. Р.	2.07 2.41 2.55	2.83 3.31 3.80	4.83	5.87 6.62 7.45	2.2	
	S 89	. M.	162 162 164	166 168 171	177 180 184	189 195 206	228 1	
-	Ъ.	B. P. P.	1.72 2.00 2.35	25.48 3.24 3.24	3.79 4.13 4.83	5.38 6.00 7.60	9.30	
	1/2" S.	R. M. H	146 147 149	152 156 160	165 169 175	180 185 197	210	
-	Ъ.	B. P.	.31	. 55 . 90	34	.75		* * * * * * * * * * * * * * * * * * *
	3,8" S.	R. M. H	29 31 34 2	43 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	55 60 3 66 4	71 4		
	P. (9)	, A.	.05 1 .25 1 .59 1	.21 .55 1	.82 .31 .80	:		+ + + + + + + + + + + + + + + + + + +
	14" S.	R. B. H.	11 16 16 20 1	25 31 36 22 22	41 47 53 3	* * *		
-	72.	Д	1 2 2 2	222	777	4.7.1	157	
	Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3200 3400
		C. F. M.	13,770 15,147 16,524	17,901 19,278 20,655	22,032 23,409 24,786	26,163 27,540 30,294	33,048 35,802 38,556	41,310 44,064 46,818

Jo. 4 Type HV Fan, Single Width, Double Inlet

. [	, A.	:::	:::	:::	6 - 8	P-1001	<b>⊳</b> 80
S. P	H. H.				16. 17.	21. 24. 27.	38. 38.
2,	R. P. M.				350 346 344	344 344 346	351 357 362
Р.	B. L. P.			3.1	8 8 9	1.4	4.0
si So	A.	311	111			400	740
2 1/2"	P. N.	111		31	314 314	318	2000
S. P.	В. Н. Р			9.32 10.0 10.6	13.2	$\frac{16.2}{18.7}$	24.2 27.6 31.8
2	R. P. M.			284 283 231	281 281 282	285 290 297	303 312 320
S. P.	В. Н. Р.		7.66	8.15 8.64 9.33	10.0 10.8 12.7	14.9 17.0 19.5	22.4 26.0 29.7
134"	R. P. M.		264	262 262 262	262 262 266	270 276 283	292 301 309
ъ.	. P.		6, 15	7.05	8.98 9.67 1.5	4 00 4	1.1
135" S	R. H.		45	# # # # # #	45 46 50	56 1 64 1 72 1	81 90 99 222
P. 1	P. P.	42	76 18 60 2	08 63 25 25 25 25 25	3000	2222	0000
si s	M. H.	9	4 20 20	433	6 7. 9 8. 4 10.	2 12. 0 14. 9 16.	0 119 9 22 0 26
72.1	 	9 22	2222	2222	2222	2222	227
S. P.	B. H. P	. co co	8.44 6.23	6.37	9.70	11.1 12.9 15.5	18.0 20.7 24.2
1,,	R. P. M.	202	200 200 200	202 202 206 206	210 212 219	227 235 245	255 265 278
S. P.	В. Н. Р.	2.62	3.52 4.28 86	4.77 5.25 5.87	6.50 7.05 8.63	10.5 12.5 14.9	17.3
7811	R. P. M.	188 188 188	188 188 189	191 193 197	199 204 211	221 230 241	250
. Р.	В. П. Р.	2.35 2.35 2.76	3.45 3.80	5.83 5.31	5.94 6.57 8.08	9.67 11.9 14.2	
34" S.	R. M.	173 173 173	173 174 176	180 182 186	189 193 204	14 23 34	
Ъ.	B. F. F	1.93 2.21 2.49	2.76 3.11 3.45	3.87 4.35 4.83	5.46 6.08 7.45	9.11	
58" S.	R. H	20 00 00 00 00 00	160 162 166	169 173 176	181 184 193	15 1	
P.	B. I. P. P	1.59 1.87 2.14	2.46	3.45	5.10	22	
½" S.	R. M. H	40 42 44	46 53 53	58	73	86	
P	3. P. P.	72.25	. 07 . 42 . 76	111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	56 1 97 1 50 1		0 9 9 8
oi :	I M. H.	23 26 1 29 1	325 41 222	51 51 36 38	60 65 79 6		
. 38	P. P.	01 11 12 38 12 12	73 1 07 1 42 1	76 11 11 15 15 1	93 16		
' S. P.	B I. H.		- 01 01	63.00.00			
14.	P. N	106 109 114	113 123 129	132 140 145	151		
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
Johnne	F. M.	13,770	17,901 19,278 20,655	22, 032 23, 409 24, 786	26,163 27,540 30,294	33,048 35,802 38,556	41,310 44,064 46,818

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

68°F.; Pressure, 29.92 inches; Weight, .0 Temperature,

# =(CLARAGE)=

Inlet
Single
Width,
Single
Fan,
HV
Type
41/2
No.

Ъ.	B. I. P.			1.7	6.15	32.5 36.5	11.1
3′ S	R. M. H			323 2	321 318 315 315	313	323 330 4 336 5
S. P.	B. I. P. P			17.9	19.0 20.0 22.3	25.1 28.5 32.7	36.9 41.7 47.9
212" 8	P. M. I			294	290 287 287	287 292 297	304 310 320
Ъ.	В. Н. Р.			12.7 13.5 14.4	15.2 16.5 19.0	21.6 24.9 28.9	33.1 37.9 43.0
.2 S.	R. P. M.			261 260 258	256 258 259	262 269 277	284 294 303
S. P.	В. Н. Р.		10.4	11.8	13.6 14.8 17.0	20.0 23.2 27.0	31.4 35.7 40.6
134"	R. P. M.		244	242 240 240	240 240 245	251 258 266	274 284 292
S. P.	В. Н. Р.		8.27	9.40 10.3 11.1	12.0 13.4 15.7	17.9 21.2 24.7	29.1 33.4 38.3
1357	P. M.		225	2222	2223 2325 2325	238 247 255	263 272 282
S. P.	В. Н. Р.		6.52	988.2	10.8 11.7 14.4	16.9 20.0 23.3	27.4 31.3 36.0
134"	R. P. M.		206 204 203	203 204 206	209 211 219	2227 235 245	255 265 274
S. P.	B. H. P.	4.79	5.23	6.96 7.66 8.35	9.32 10.4 12.5	15.2 18.0 21.1	24.7 28.9 33.4
Total	P. M.	183	181 181 181	183 186 189	193 196 204	214 222 233	242 253 264
S. P.	В. Н. Р.	4.18	6.22	7.04	8.70 9.92 11.8	14.5 17.2 20.5	24 2 27 3
2 ×	P. M.	170	170 171 173	177 177 181	184 189 198	207 218 227	237
S. P.	B. H. P.	3 30	4 09	5.92 6.61 7.30	8.17 9.05 11.1	13.6 16.4 19.5	
34	P. M.	12.00	158 160 3 163	170	176	199 210 220	
S. P.	B. H. P	20.00	4.18	6.62	7.40 8.35	15.3	
186	P. M	7 144 2 144 6 145	3 147 7 149 5 152	9 157 2 160 9 163	8 1173 8 1173 8 1183	193	
S. P.	B. H. P	010101	20.0	4 4 5 9	9 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	11.7	133
35%	P. M.	5 129 2 131 2 132	2 135 139 5 142	7 147 9 150 8 155	9 165 175 175	186	
S. P.	H. P	-0101	010000	4410	0.9		
186	P. R.	1114	5 124 0 127 2 132	7 137 8 142 8 147	152		
S. P.	B. H. F	110	010100	0000		100	331
256	P. M.	103	1116	136	1111		111
Outlet	Feet Per Min.	1000	1300	1500	1900 2000 2200	2400 2500 2800	3200
	F. M.	17,400 19,140 20,880	22.620 24.360 26.100	1-0-	m = m	- LC 00	52,200 55,680 59,160

# No. 41/2 Type HV Fan, Single Width, Double Inlet

S. P.	В. Н. Р.				21.3 22.3 24.4	27.4 30.8 34.3	38.7 43.2 47.9
, m	R. P. M.				312 309 306	306 306 309	313 317 322
S. P.	В. Н. Р.			16.5	17.4 18.7 20.9	23.5 27.0 30.5	34.5 39.0 43.9
212" S.	R. P. M.			281	280 279 279	279 283 286	291 298 303
٦.	В. Н. Р.			11.8 12.6 13.4	14.3 15.3 17.4	20.4 23.5 26.7	30.5
2" S.	P. M.			255 252 250	250 250 251	254 258 264	270 278 284
S. P.	В. Н. Р.	+ + +	9.65	10.3 10.9 11.8	12.6 13.6 16.0	18.8 21.4 24.6	28.2 32.7 37.4
134"	R. P. M.	+ + +	235	233 233 233	233 233 237	240 246 252	268 268 275
S. P.	В. Н. Р.		7.75	8.88 9.65 10.5	11.3 12.2 14.5	16.9 19.9 23.2	30.6
11,2" \$	R. P. M.		218	217 217 217	218 219 223	228 235 242	250 258 256
S. P.	В. Н. Р.	5.57	6.00	7.65 8.35 9.15	10.0	15.5 18.1 21.3	24.9
134" 8	R. P. M.	201	200 198 198	198 198 200	201 203 209	215 222 231	240 248 258
Ъ.	B. H. P.	4.18	4.97 5.40 5.93	6.53 7.23 8.02	8.89 9.75 11.7	14.0 16.2 19.5	22.7
1" S.	R. P. M.	179	178 178 178	180 180 183	186 188 195	201 209 217	227
Ъ.	В. Н. Р.	3.31	4,44	6.62	8.88 8.88 10.9	15.3	21.8
78.7 S.	P. M.	168 167 167	167 167 168	170 172 175	177 181 188	196 205 214	223
P.	B. H. P.	2 96 3 22 3 48	4.35	5.40 6.10 6.70	7.50 8.27 10.2	12.2 15.0 18.0	
34" S.	R. M.	154 154 154	155	160 162 165	168 172 181	190 198 208	
ъ.	B. H. P.	2.44 2.79 3.14	4.35	4.88 5.49 6.09	6.88 7.65 9.40	14.0	
28 28	R. P. M.	141	142	151 154 157	161 163 172	181	
. P.	В.	22.35	3.45	4.35	6.45 7.05 8.70	10.8	
1.5" S	R. P. M.	125 126 128	130 132 136	141 144 149	153 157 167	177	
S. P.	В. Н. Р.	1.57 1.92 2.18	2.61 3.05 3.48	3.92 4.45 4.97	6.27 6.27 8.18		
8 28 20	R. P. M.	1112	122	134	142		
S. P.	В. Н. Р.	1.27	2.18	3 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	4.97		
8 %	P. M.	94 102	106 110 115	118 125 129	134		
Outlet	Feet per Min.	1000 1100 1200	1300	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200
	Volume	7.400	2.620	7.840 9.580 1.320	33,060 34,800 38,280	41.760 45.240 48.720	55, 200

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

68°F.; Pressure, 29.92 inches; Weight,

	02	1			. 01 01	अअअ	33 33 44	42 TE3 TE3
	2 1/2"	P. M.			265	262 259 259	2559 263 268	288 288 288 288
	Ъ.	В. Н. Р.			15.7 16.7 17.8	18.8 20.4 23.5	30.8	40.8 46.8 53.0
	2" S.	R. P. M.			223 232 232 232 232 232 232 232 232 232	233 233 233 233 233 233 233 233 233 233	237 242 250	2556 2655 272
	S. P.	В. Н. Р.		12.9	13.6 14.5 15.6	16.8 18.3 21.1	2228 2388 7 388 7 388 7 388	38.6 44.0 50.1
	134"	R. P. M.		220	218 216 216	2216 2216 220	232 232 240	247 256 263
	S. P.	В,		10.2	11.6 12.7 13.8	14.8 16.6 19.3	25 26 26 30 50 50	35.9 41.3
Inlet	1 152"	R. P. M.		202	200 200 200	201 203 209	215 222 229	237 246 254
	0:	,0:		07	0100	60 KG E=	0100	00 00 10
le	S. P	H. B		တတ္တ	212	0 4 F-	2220	S S 4
Single	134" 5	P. M.		185 184 182	182 183 185	188 190 197	204 212 220	230 238 247
2		.01	95	1500	9 4 6	10010	840	01-00
(t)	D.	H. B.	10	900	8 6 0	1220	8 6 6 9	35.
Width,	1" S.	R. M.	165	163 163	165 168 171	174 177 184	192 200 210	2017
gle		ا نم.	16	10	711	00 00 00	00 00 17	0.4
ng	4	B.H.	10	200	00 00 00	0014	2517	01.00
ı, Sin	7 8 12 S	R. P. M.	153	153 154 156	157 159 163	166 171 178	187 196 205	61 61 10 61 10 61 10 61
Fan,	Р.	.01	09	05 80 46	32 18 03	-0100	× 01	
H	S.	B H.	न्यं स्त	6 03 03	F-00 00	120	200	
HV	2 2 2 2	R. P. M.	143	143 144 147	150 153 156	159 163 171	179 190 199	
a	D.	ρ,	98	116	45 54 17	300	t-01	
Type	só:	H. H	20 62 63	41010	900	9 2 2 2 2 2	22	
5 T	3.8	R. P. M.	129 129 131	132 134 137	140	152 156 165	174	
ė.	A.	2	69	140	545	8 35	10	
No.	trá	H. B	6/1 00 00	20-470	10.00	8611	7	1 1 1
	160	P. M.	116 118 119	125 125 125 128	132 135 139	144 149 158	168	
	a:	. E.	588	2000	222	53		
	oó	H.	2000	०० ०० च	10100	F- 00	111	111
	30.00	R. P. M.	103 105 107	1112	124 128 132	137		
	0.	0.	93	90 44 96	1926			
	55	H.	==01	01 00 00	41010	111	111	
	38	P. M.	988	100	1118 1122			
	Outlet	Feet Feet per Min.	1000 1100 1200	1300	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3400

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S. P.	B. H. P.				26.3 27.6 30.2	333 42.13 5.15	53.4
200	P. M.		111		281 278 275	275 275 278	281
S. P.	В. Н. Р.			20.4	21.5 23.0 25.8	29.1 33.4 37.7	48.3
23.67	P. M.			253	252 251 251	251 254 257	262 268 279
Ъ.	В. Н. Р.			14.6 15.5 16.5	17.7 19.0 21.5	25.2 29.1 32.9	37.6
27. S.	P. M.			2552 2552 2552 2552	10 10 10 10 10 10 10 10 10	01 01 01 01 03 03 03 01 00	243
S. P.	В. Н. Р.		12.0	13.5	15 6 16 8 19 7	28.3 26.5 30.4	40.5
134" S. P	P. M.		212	210 210 210	210 210 213	216 221 221 226	234
S. P.	В. Н. Р.		9.59	12.0	14.0 15.1 17.9	20 .9 24 .6 28.7	33.0
1) 5" S. P	R. P. M.		196	195 195 195	196 197 201	205 212 217	20010
S. P.	В. Н. Р.	6.90	7.43 8.08 8.72	9.48 10.4 11.3	122.4	15 25 26 26 26 26 26 26 26	80.8
1.14"	P. M.	181	173	178	183	200 200 207	95000
۵.	В. Н. Р.	5.17	6.13	8 07 9 93 9 90	12.0	17.3 20.0 24.2	0 00 to
1 S.	P. M.	191	160	1662	168 170 175	181 188 196	204
S. P.	B. H. P.	4.95	5.50 6.03 6.67	7 42 8 18 9 15	10.2	16.4	26.9
3 4.86	P. M.	150	150	800 E	160 163 169	184	200
S. P.	В. Н. Р.	3.56 4.30	4 10 1	8 5 5 8 8 5 5 8 8 5 5 9	9 10 12 8 8 9 12 6	15.1 18.6 22.22	
20,76	R. P. M.	138 138 138	138 140 141	144 146 149	1551	171	
S. P.	B. H. P.	3.01	4 4 10 8 8 3 1	6.03	8.50 9.47	14.2	
38" S.	P. M.	20101	128	135 138 141	145	163	
S. P.	В.	200.00	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6.39	7 97 8 72 10 8	13.4	
1.91	P. M.	1113	1119	134	187	1.69	
S. P.	B. H. P.	10101	4 30	4.85 5.50 6.15	7.75		
88.11	P. M.	3 100 101 103	9 106 7 113	0 1117	1228		
S. P.	B. H.	1.58	2000	4410	6.1		
1000	P. M	888 91 91 91	103	1106	12		
Outlet	Feet per Min.	1000 1100 1200	1300	1600 1700 1800	1900	2400 2600 2800	3200
Janes and	F. M.	23, 500 23, 650 25, 800	27,950 30,100 32,250	34.400 36.550 38.700	3.000	51,600 55,900 60,200	64,500

faced type indicates the most efficient point of operation for each pressu

Temperature, 68° F.; Pressure, 29.92 inches; Weight, .

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P. 11/2" S. P.	B. R. B. P. P.		75 4 184 12.4 .2 183 13.1	.4 182 14.1 .3 182 15.4 .0 182 16.7	.2 183 18.0 .6 184 20.1 .5 190 23.5	.8 202 31.6 .8 208 36.9	.7 223 49.8 .7 231 57.1
S. P. 114" S.	B. R. H. H.	7.16	7.82 168 9 8.46 167 10 9.38 166 11	10.4 166 12 11.5 167 13 12.5 168 15	13.9 171 16 15.6 172 17 19.0 179 21	22.8 186 25 27.1 192 29 31.5 201 34	37.0 208 40 43.1 217 46 50.0 225 53
78" S. P. 1"	R. B. R. R. M. H. P. P. M.	139 6.25 150	139 7.04 149 140 7.82 149 142 8.60 149	143 9.76 150 144 10.6 152 149 11.7 155	151 13.0 158 155 14.9 160 162 17.7 167	170 21.6 175 178 25.8 182 186 31.8 191	194 36.2 198 202 41.7 207
34" S. P.	R. B. P. P	130 4.95 130 5.73	130 6.12 131 7.03 134 7.82	136 8.85 139 9.90 142 10.9	144 12.3 149 13.6 155 16.7	163 20.3 172 24.5 181 29.3	
%" S. P.	P. P. M. H. P.	5 118 3.91 8 118 4.56 3 119 4.82	0 120 5.34 4 122 6.25 2 124 7.16	7 128 7.82 2 131 9.12 2 134 9.90	138 11.1 142 12.5 150 15.4	158 19.0 166 23.0	
, 12" S. P.	P. P. M. H. I	48 106 3.2 13 107 3.7 78 109 4.4	17 111 4.7 82 113 5.3 47 116 6.4	38 120 7.1 17 123 7.8 20 127 9.1	11 131 10.2 3 135 11.3 143 14.3	152 17.6	
98" S. P	P. P. M. H.	94 15 95 3 3 3 3	52 102 6 104 72 108 5.	112 6. 116 7. 6 120 8.	124 9 128 10		
14" S. P.	R. B. B.	80 84 87 87 3.0	91 3.5 95 4.1 99 4.8	103 5.3 107 6.2 111 7.1			
Outlet 14"	Feet Feet Feet Feet P. M.	1000 1100 1200 84 84		001		111	111

# Vo. 51/2 Type HV Fan, Single Width, Double Inlet

Ъ.	В. Н. Р.			+ + + + + + + + + + + + + + + + + + + +	31.9 33.4 36.6	41.0 46.3 51.5	58.0 64.8 72.0
3" S.	P. M.				255 252 250	250 250 252	256 259 264
S. P.	В. Н. Р.	· · · · · · · · · · · · · · · · · · ·		24.7	26.1 28.0 31.4	35.3 40.5 45.7	51.8 58.5 66.0
2 12"	R. P. M.	* * *		230	223 223 228	228 231 234	238 243 247
S. P.	В. Н. Р.	* * * *		17.7 18.8 20.0	21.4 23.0 26.1	30.6 35.3 40.0	45.8 52.2 60.2
2,, 2	R. P. M.			207 206 205	205 205 205	207 211 216	220 227 233
S. P.	В. Н. Р.		14.5	15.4 16.3 17.6	18.9 20.4 23.9	28 32 36 .8 22 86	42.3 49.1 56.2
134"	R. P. M.		193	191 191 191	191 191 194	197 201 206	213 219 225
S. P.	В. Н. Р.		11.6	13.4 14.5 15.7	17.0 18.3 21.7	25.4 29.8 34.8	40.0 46.0 52.2
135"	R. P. M.		178	177 177 177	178 179 183	186 193 198	204 211 218
S. P.	В. Н. Р.	8.36	9.00 9.80	11.5 12.6 13.7	15.0 16.1 19.5	23.3 27.2 31.9	37.4 43.1 49.7
114"	R. P. M.	165	163 162 162	162 162 163	164 166 171	176 182 189	196 203 211
. P.	В. Н. Р.	6.27	7.45 8.10 8.88	9.80 10.9 12.0	13.3 14.6 17.5	20.9 24.3 29.3	34.0 39.2 45.7
1" S.	R. P. M.	147	145 145 145	147 147 150	152 154 160	165 171 178	186 193 202
S. P.	В. Н. Р.	4.97 5.35 6.00	6.66 7.31 8.10	9.00 9.95 11.1	12.3 13.3 16.3	19.9 23.5 28.2	32.7
1811	R. P. M.	138 136 136	136 136 138	139 141 143	145 148 153	161 167 175	132
S. P.	В. Н. Р.	4.44	5.88 6.53 7.19	8.10 9.15 10.1	11.3 12.4 15.3	18.3 22.5 26.9	
34" 5	R. P. M.	126 126 126	126 127 128	131 132 135	138 140 148	155 162 170	
S. P.	В. Н. Р.	3.65 4.18 4.70	5.23	7.32 8.23 9.15	10.3 11.5 14.1	27.2	* * * *
185	R. P. M.	115 115 115	116 118 120	123 126 128	132 134 141	148	+ * * *
S. P.	В. Н. Р.	3.53 4.05	4.65 5.17 5.75	6.53 7.45 8.50	9.68 10.6 13.1	16.2	
32"	R. P. M.	102 103 104	106	1115 1118 121	125 128 136	145	
S. P.	B. H. P.	22.35	3.92 4.57 5.23	5.88 6.66 7.45	8.63 9.40 12.3		
38	P. M.	90	100 103	105 110 1110	116 120 130	* * *	
S. P.	В, Н. Р.	1.91 2.09 2.61	3.27	6 52 53	7.45	* * * *	
75%	R. P. M.	77 88 83	87 90 94	96 102 105	110		
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
Volumo	C. F. M.	26,050 28,655 31,260	33,865 36,470 39,075	41,680	49,495 52,100 57,310	62,520 67,730 72,940	78,150 83,360 88,570

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

Pressure, 29.92 inches; Weight, 68°F.; Temperature, Standard

	ъ.	В.			38,4	40.3	51.7 57.9 65.0	73.1 82.7 93.0
	3" S.	R. P. M.			243	241 239 237	235 237 239	243 248 2548 468
	S. P.	В. Н. Р.			30.2	33.8 35.6 39.6	44.6 50.8 58.3	65.6 74.6 85.2
	21/2"	P. M.			221 219	218 216 216	216 219 223	228 233 240
	Ъ.	В. Н. Р.			22.6 24.0 25.5	27.1 29.4 33.7	38.4 44.3 51.4	58.9 67.5 76.5
	2,7	R. W.			196 195 194	192 194 195	197 202 208	213 221 227
	S. P.	В. Н. Р.	· · · · ·	18.6	19.5 20.9 22.5	24.1 26.3 30.6	35.6 41.2 48.0	55.8 63.4 72.2
	134" \$	R. M.		183	181 180 180	180 180 184	188 194 200	206 213 219
	S. P.	В. Н. Р.		14.7	16.7 18.3 19.8	21.4 23.8 27.8	31.9 37.8 44.0	51.8 59.4 68.1
nlet	11/2" 5	P. M.		169	167 167 167	168 169 174	179 185 191	197 204 212
le I	Д.	B. H. P. J		11.6 12.4 13.3	14.7 15.8 17.6	19.2 20.9 25.6	30.0 35.6 41.5	48.6 55.7 64.0
Single Inlet	11%" S.	 M		154 153 152	152 153 154	157 158 164	170 177 184	191 199 206
	S. P.	В. Н. Р. 1	. 52	9.30 10.1 11.2	12.4 13.6 14.9	16.6 18.6 22.6	327 22 2	44.0 51.4 59.5
Width,	1" S.	P. M.	137	136 136 136	137 139 142	145 147 153	160 167 175	182 189 197
Single	. P.	В. Н. Р.	7.43	8.36 9.30 10.2	11.6 12.5 13.9	15.5 17.6 21.0	25.7 30.6 36.5	42.6
Sin	78.11 S.	R. P. M.	128	128 128 130	131 132 136	139 141 148	156 163 170	178
Fan,	Д.	В. Н. Р.	6.83	7.28 8.36 9.30	10.5 11.8 13.0	14.5 16.0 19.8	24.2 29.1 34.7	
HV	34 " S.	P. M.	119	119 -120 123	125 127 130	133 136 142	150 158 165	
Type 1	. P.	. B. H. P.	4.64 5.42 5.73	6.35 7.44 8.50	9.30 10.8 11.8	13.2 14.9 18.3	22.6	
e Tu	5 " S.	R. M. 1	108 108	1111	118 120 123	126 130 137	145	
No.	. P.	В. Р.	3.87 4.48 5.26	5.57 6.35 7.28	8.50 9.30 10.8	12.1 13.5 17.0	20.9	
~	1,2" S.	P. M.	97 98 99	102 104 107	110 1113 1116	120 124 131	140	
	S. P.	В. Н. Р.	2.94 3.71 4.49	4.95 5.72 6.50	7.60 8.50 9.75	10.8		
	1,8%	P. M.	86 87 92	999	103 107 110	114		
	S. P.	В. Н. Р.	2.32	4.19	6.34 7.42 8.50			
	74	R. P. M.	7.4 7.7 80	84 87 91	94 98 102			
		Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
	1	C. F. M.	30,950 34,045 37,140	40,235 43,330 46,425	49,520 52,615 55,710	58,805 61,900 68,090	74,280 80,470 86,660	92,850 99,040 105,230

Inlet
Double
Width,
Single
Fan,
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Type
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No.

Ъ.	В.				37.8 39.6 43.3	48.6 54.8 61.0	68.8 76.9 85.2
3" S.	R. M.				2334 2332 2239	2229 2329 232	234 238 241
S. P.	B. T. P. I				31.0 33.2 37.2	41.8 48.0 54.1	61.4 69.4 78.0
2127 8	R. P. M. J			2111	210 209 209	209 212 215	218 223 227
Д.	В. Н. Р. 1			20.9 22.3 23.7	25.4 27.3 31.0	36.2 41.8 47.4	54.2 62.0 71.3
2" S.	R. P. M.			190 189 187	187 187 188	190 194 198	202 209 213
S. P.	В. Н. Р.		17.2	18.3 19.4 20.9	222 22 28 23 23 23 23 23 23 23 23 23 23 23 23 23	4.88.4 4.88.14	58.2
134"	R. P. M.		177	175 175 175	175 175 178	180 185 189	195 201 206
S. P.	В. Н. Р.		13.8	15.8 17.2 18.6	20.2 21.7 25.7	30.1 35.3 41.2	47.4 54.5 62.0
13. S	P. M.		163	162 162 162	163 164 167	171 177 182	187 194 200
S. P.	B. H. P.	9.90	10.7 11.6 12.6	13.6 14.9 16.3	17.8 19.1 23.1	27.6 32.2 37.8	44.3 51.1 58.9
114"	R. P. M.	151	150 149 149	149 149 150	151 153 156	161 167 173	180 186 194
S. P.	В. Н. Р.	7.44	8.82 9.60 10.6	11.7 12.9 14.3	15.8 17.4 20.8	28.8 28.8 34.7	40.3 46.5 54.2
1, 8	R. P. M.	134	134 134 134	135 135 138	140 141 146	151 157 163	170 177 185
S. P.	В.	5.89 6.37 7.13	7.90 8.18 9.70	10.7 11.8 13.2	14.6 15.8 19.4	23.6 27.9 33.8	38.8
187	R. P. M.	126 125 125	125 125 126	128 129 131	133 136 141	147 154 160	167
S. P.	В. Н. Р.	5.27 5.73 6.20	7.75	9.60 10.9 12.0	13.4 14.7 18.2	21.7 26.7 31.9	
34"	R. P. M.	1115 1115 1115	115 116 118	120 121 124	126 129 136	142 149 156	
S. P.	В. Н. Р.	4.34	6.20 7.00 7.75	8.68 9.78 10.9	12.3 13.7 16.7	20.5	
1189	R. P. M.	106 106 106	107 108 110	1113 1115 1118	121 123 129	136	
S. P.	В. Н. Р.	3.56 4.19 4.81	5.51 6.13 6.82	7.75 8.83 10.1	11.5 12.6 15.5	19.2	
1/5/	R. P. M.	93 96 96	97 100 102	105 108 1111	1114 1118 125	133	
S. P.	В. Н. Р.	3.87	4,65 5,43 6.20	7.00	10.2 11.2 14.6		
38/1	. P. M	7 88 0 86 86	88 6 91 94 94	0 0 101 5 104	3 107 110 119	F F F	
S. P.	В. Н. Р	210100	& 4 10 & 6 4	7.07	00		
34"	P. R.	70 73 76	82 86	938	101		
Outlet	Feet Per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
Tolume	C. F. M.	30,950 34,045 37,140	40,235 43,330 46,425	9,520 2,615 5,710	58,805 61,900 68,090	74,280 80,470 86,660	92,850 99,040 05,230

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

Air: Temperature, 68°F.; Pressure, 29.92 inches; Weight, .07488 lbs.

(TYPE HV FANS): 77% EFFICIENT)

Inlet
Single
Width,
Single
Fan,
HV
Type
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No.

.	 P.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4	9.12	6.4	35.8 17.2 19.0
S. P.	H. H.		1 1 1	1 :4	440	992	98
37,	R. P. M		* * *	224	223 221 218 218	217 218 221	224 229 233
S. P.	В. Н. Р.			35.4	39.6 41.8 46.5	52.3 59.6 68.4	77.2 87.3 100.0
212" S.	R. P. M.			204	202 199 199	199 203 206	210 215 222
S. P.	В. Н. Р.			26.5 28.2 30.0	31.8 34.5 39.6	45.0 52.0 60.4	69.2 79.3 90.0
2,7	R. P. M.			181 180 179	178 179 180	182 187 192	197 204 209
S. P.	B. H. P.		21.8	22.9 24.6 26.4	28.3 35.9	41.8 48.4 56.3	65.4 74.5 84.8
134"	R. P. M.		169	168 166 166	166 166 170	174 179 184	190 197 203
S. P.	В.		17.3	19.6 21.5 23.3	25.1 28.0 32.7	37.4 44.4 51.6	69.8 80.08
111/2"	P. M.		155	154 154 154	155 156 161	165 171 177	182 189 196
S. P.	В. Н. Р.		13.6 14.5 15.6	17.3 18.5 20.7	22.5 24.5 30.0	35.2 41.8 48.7	57.2 65.4 75.3
114"	R. P. M.		143 142 140	140 142 143	145 146 152	157 163 170	177 183 190
S. P.	В. Н. Р.	10.01	10.8 11.8 13.1	14.5 16.0 17.4	19.5 21.8 26.5	31.8 37.8 44.0	51.6 60.5 69.8
1,, 8	R. P. M.	127	126 126 126	127 129 131	133 136 141	148 154 162	168 175 182
S. P.	В. Н. Р.	8.72	9.82 10.8 12.0	13.6 14.7 16.4	18.2 20.7 24.7	30.3 36.0 42.9	58.2
182	R. P. M.	118	118 118 120	121 122 126	128 131 137	144 151 157	164
S. P.	В. Н. Р.	6.90	8.55 9.81 10.8	12.4 13.8 15.3	17.1 18.9 23.3	28.4 34.2 40.6	
34.1	R. P. M.	1110	1110	1115 1118 120	122 126 131	138 146 153	
S. P.	B. H. P.	6.35	7.45 8.25 10.0	12.9	15.4 17.5 21.4	32.0	
10/10/10	R. P. M.	5 99 7 99 8 100	5 102 5 103 5 105	109 111 113	1117 120 127	133	
S. P.	В.	4.55 5.27 6.18	6.55	10.0 10.9 12.7	14.2 15.8 20.0	24.6	
35"	R. P. M	5 6 9 7 91	3.2.2 3.2.2 3.0.0 4.0.0 9.0.0 9.0.0	0 102 104 108	111111111111111111111111111111111111111	129	
S. P.	B. H. P	82 470 400 01	6.7.8	10.0	12.8		
381	R. P. M	8 85 85	0 88 2 2 88 3 2 88	2 95 98 102	105		
S. P.	В. Н. Е	2007	4 75 9	7.4 10.01	111		
77.	R. P. M.	73	77 80 84	87 91 94			111
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3400
O'CL Transcom	J. F. M.	36,350 39,985 43,620	47,255 50,890 54,525	58,160 61,795 65,430	69,065 72,700 79,970	87,240 94,510 01,780	09,050 16,320 23,590

Б.	В. Н. Р.				44.4 46.6 50.9	57.1 64.4 71.6	80.8 90.2 100.0
3,' S.	P. M.		* * *		216 214 212	212 212 214	216 220 223
S. P.	В. Н. Р.			34.3	36.4 38.9 43.7	49.1 56.4 63.6	72.0 81.5 91.8
21/2"	R. P. M.			194	193 193 193	193 196 198	201 206 210
S. P.	В. Н. Р.			24.5 26.2 27.8	29.8 32.0 36.4	42.6 49.1 55.6	63.7 72.8 83.6
2′′ 2	R. P. M.			175 174 173	173 173 174	176 178 183	187 192 197
S. P.	В. Н. Р.		20.2	21.4 22.7 24.6	256 33.33.33	39.3 44.7 51.3	59.0 68.4 78.2
134"	R. P. M.		163	161 161 161	161 161 164	166 170 174	180 185 190
S. P.	В. Н. Р.		16.2	18.5 20.2 21.8	23.6 25.4 30.4	35.2 41.5 48.4	55.7 64.0 72.8
132"	R. P. M.		151	150 150 150	151 152 154	157 162 167	173 178 183
S. P.	В. Н. Р.	11.6	12.5 13.6 14.7	16.0 17.5 19.1	20.9 22.7 27.1	32.3 37.7 44.7	52.0 60.0 69.1
114"	R. P. M.	139	138 137 137	137 137 138	139 141 144	148 154 160	166 172 178
S. P.	В. Н. Р.	8.73	10.4 11.3 12.3	13.6 15.1 16.7	18.5 20.7 24.3	29.1 33.8 40.8	47.3 54.6 63.6
1,, 8	R. P. M.	124	123 123 123	124 124 127	129 130 135	139 145 150	157 163 171
S. P.	В. Н. Р.	6.91 7.46 8.36	9.27 10.2 11.3	12.5 13.8 15.5	17.1 18.5 22.7	27.7 32.7 39.3	45.5
1811	R. P. M.	116 115 115	1115 1115 1116	118 119 121	123 125 130	136 142 148	154
S. P.	В. Н. Р.	6.18 6.72 7.26	8.18 9.08 10.0	11.3 12.7 14.0	15.6 17.3 21.3	25.5 31.2 37.4	
34.1	R. P. M.	106 106 106	106 107 109	11111112	117 119 125	131 137 144	
S. P.	В. Н. Р.	5.10 5.81 6.55	7.27 8.18 9.08	10.2 11.4 12.7	14.4 16.0 19.6	24.0	
28/1	R. P. M.	97	100 100 102	104 106 109	1113	125	
S. P.	B. H. P.	4.18 4.91 5.63	6.47 7.20 8.00	9.08 10.4 11.7	13.4 14.7 18.2	22 . 5	
350	R. P. M.	886	92 94	3 97 100 103	106 108 115	122	
S. P.	B. H. P.	3.27 4.00 4.54	5.45 6.37 7.27	8.18 9.27 10.4	12.0 13.1 17.1		
18/1	P. M.	5 76 1 78 4 79	5 84 6 87	7 8 93 8 96	98 102 110		
S. P.	B. H. P.	32.23	4.54 5.45 6.36	7.27 8.18 9.08	10.4		
14"	P. M	65 67 70	73	88 88 89 89	93		
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
Volumo	C. F. M.	36,350 39,985 43,620	47,255 50,890 54,525	58,160 61,795 65,430	69,065 72,700 79,970	87,240 94,510 101,780	109,050 116,320 123,590

type indicates the most efficient point of operation for each pressure.

Temperature, 68°F.; Pressure, 29.92 inches; Weight,

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S. P	L. H.	1 6 6			557	70 79 88	99 112 126
3,′	P. R.	* * *		208	207 205 205	203 203 205	208 212 212 216
S. P.	В. Н. Р.			41.2	46.0 48.5 54.0	69.2 79.3	89.5 102.0 116.0
21/2"	R. P. M.			188	187 185 185	185 188 191	195 200 206
Б.	H. P.	* * *		30.8 32.7 34.8	36.9 40.1 46.0	52.3 60.5 70.0	80.2 92.0 04.0
2" S.	P. M.			168 167 166	165 165 167	169 173 179	183 189 194
Р.	В. Н. Р. 1			9.9	1.572	50.00	0.000
134" S	R. M.		157 2	156 2 155 2 155 3	155 3 155 3 157 4	161 166 5 172 6	177 183 188 9
F.	B.			& 0.0	1700	توتعرض	1000
1½" S.	R. M. H		45 20	43 24 43 24 43 27	44 29 45 32 49 38	53 43 58 51 64 60	69 70 76 81 82 93
P. 1	. P.		0007			0.99	50.03
si i	R. B. H.		2 15 1 16 0 18	0 20. 1 21. 2 24.	5 26 6 28 1 34	6 41 1 48 8 56	4 66 0 76 7 87
174	P. P. 1	9	7 13 7 13 2 13	9 13 3 13 13	8 13 8 13 14	9 0 15 0 15	0 16 0 17 0 17
S. P.	H.	= ==	123.13	16. 18. 20.	30.0	36. 44. 51.	60. 70. 81.
1,1	P. M.	118	117	118 120 122	124 126 132	137 143 150	156 163 169
S. P.	В. Н. Р.	10.1	11.4 12.7 13.9	15.8 17.1 19.0	21.1 24.1 28.7	35.0 41.8 49.8	67.9
1811	R. P. M.	109	109 1110 1111	1112	119 122 127	133 140 146	152
S. P.	В. Н. Р.	9.30	9.90 11.4 12.7	14.4 16.1 17.7	19.8 22.0 27.0	32.9 39.6 47.2	
34"	R. P. M.	102	102 103 105	107 109 112	1114 1117 1122	128 136 142	
S. P.	В. Р.	6.33 7.40 7.80	8.65 10.1 11.6	12.7 14.8 16.1	18.0 20.3 24.9	30.8	
1,8%	R. P. M.	92 8 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9	96	101 103 105	108 1112 1118	124	
S. P.	В. Н. Р.	5.28 6.12 7.17	7.60 8.65 9.90	11.6 12.7 14.8	16.5 18.4 23.2	28.5	
12	R. P. M.	83 84 85	87 89 92	95 97 100	103 106 112	120	
ъ.	В.	4.02 5.07 6.12	6.75 7.80 8.87	10.3 11.6 13.3	14.8		+ + + + + + + + + + + + + + + + + + + +
3%" S.	P. M. J	77	82	988 91 95			
. P.	B. H. P. 1	3.16 3.80 4.86	5.70 6.75 7.81	8.65 10.1 11.6			
14" S.	R. P. M. 1	<b>63</b>	722	81 84 87			
Outlet	n 4	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
	C. F. M.	42,150 46,365 50,580	54,795 59,010 63,225	67,440 71,655 75,870	80,085 84,300 92,730	101,160 109,590 118,020	126,450 134,880 143,310

# No. 7 Type HV Fan, Single Width, Double Inlet

Ъ.	В. Н. Р.				51.4 54.0 59.0	66.2 74.6 83.1	93.6 104.5 115.8
3,′S	R. P. M.		* * * * * * * * * * * * * * * * * * *		200 198 196	196 196 198	201 204 207
S. P.	В. Н. Р.			39.7	42.2 45.1 50.E	56.9 65.3 73.7	83.5 94.5 106.2
212"	R. P. M.			181	180 180 180	180 182 184	187 191 195
. P.	В. Н. Р.			28.4 30.6 32.2	34.5 37.0 42.2	49.3 56.9 64.5	73.7 84.3 97.0
2" S.	R. P. M.			163 162 160	160 160 161	163 167 170	174 179 183
S. P.	В. Н. Р.		23.4	24.8 26.3 28.4	38.82	45.5 51.8 59.4	68.2 76.7 90.5
134"	R. P. M.		151	149 149 149	149 149 152	155 158 162	167 172 176
S. P.	В. Н. Р.		18.7	21.5 23.4 25.3	27.4 29.5 35.0	40.9 48.1 56.5	64.5 74.1 84.3
11/2"	R. P. M.		140	139 139	140 141 143	147 151 155	160 166 171
S. P.	В. Н. Р.	13.5	14.5 15.8 17.1	18.5 20.5 22.1	24.2 25.9 31.4	37.5 43.8 51.4	60.2 69.6 80.0
11/4"	R. P. M.	123	128 127 127	127 127 128	129 131 133	138 143 148	154 160 166
S. P.	В. Н. Р.	10.1	11.9 13.1 14.3	15.8 17.5 19.4	21.5 23.6 28.2	33.7 39.2 47.2	54.8 63.2 73.7
1,, S	R. P. M.	115	114 114 114	116 116 118	120 121 125	130 135 140	146 151 159
S. P.	В. Н. Р.	8.00 8.52 9.68	10.8 11.8 13.1	14.5 16.0 17.9	19.8 21.5 26.4	32.0 37.9 45.5	52.6
78 8	R. P. M.	108 107 107	107 107 108	109 1110 1112	114 116 121	126 132 137	143
S. P.	В. Н. Р.	7.16 7.80 8.43	9.48 $10.5$ $11.6$	13.0 14.7 16.2	18.1 20.0 24.6	29.5 36.7 43.4	
34"	R. P. M.	66 66 88	99 100 101	103 104 106	108 110 116	122 127 134	
S. P.	В. Н. Р.	5.90 6.74 7.59	8.44 9.48 10.5	11.8 13.3 14.7	16.6 18.6 22.7	33.7	
1,8%	R. P. M.	060	91 92 95	97 99 101	103 105 110	117	
S. P.	В. Н. Р.	4.85 5.69 6.53	7.41 8.35 9.27	10.5 11.9 13.7	15.6 17.1 21.1	23.1	
1/2"	R. P. M.	80 81 82 82	883	92 95 95	97 101 107	113	
S. P.	В. Н. Р.	3.79 4.63 5.26	6.32 7.38 8.45	9.48 10.8 11.9	13.9 15.2 19.8		
38.2	R. P. M.	8 71 7 72 2 74	7 76 2 78 8 81	88 88 88 88 89 88	91 95 102		
S. P.	В. Н. Р	30.08	7.32	8.48 9.48 10.5	11.9	1 - 1	
14"	P. M	63 65 65	68 71 74	76 88 83	86	* * * *	
Outlet	Feet per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000 3200 3400
Johnne	. F. M.	42,150 46,365 50,580	54,795 59,010 63,225	67,440 71,655 75,870	80,085 84,300 92,730	101,160 109,590 118,020	26,450 34,880 43,310

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

Pressure, 29.92 inches; Weight, 68°F.; Air: Temperature,

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. P.	B. H. 72.			9.09	63.0 65.4 72.7	81.0 90.7 102.0	114.5 129.5 145.5
37.	R. M.			194	193 191 189	189 189 191	194 198 202
S. P.	В. Н. Р.			47.3	52.9 55.7 62.0	69.9 79.5 91.1	103.0 116.3 133.5
212"	R. P.M.			177	174 173 173	173 175 178	182 186 192
Ъ.	В. Н. Р.			35.4 37.6 40.0	42.4 46.0 52.9	69.3 80.5	92.0 $106.0$ $120.0$
2" S.	R. P. M.			157 156 155	154 155 156	158 162 167	171 176 182
S. P.	В. Н. Р.		29.1	320.5	37.8 41.2 47.5	55.7 64.5 75.1	87.2 99.5 113.0
134"	R. P. M.		146	145 144 144	144 144 147	151 155 160	165 171 175
S. P.	В. Н. Р.		23.0	26.2 28.6 31.0	33.5 37.3 43.7	59.0 59.1 68.8	81.0 93.0 107.0
135"	R. P. M.		135	133	134 135 139	143 148 153	158 163 170
S. P.	В. Н. Р.		18.2 19.4 20.9	23.0 24.7 27.6	30.1 32.7 40.0	47.0 55.7 65.0	76.0 87.2 101.0
13%	R. P. M.		123	122 122 123	125 127 131	136 141 147	153 159 165
S. P.	B. H. P.	13	14.6 15.8 17.5	19.4 21.3 23.3	26.0 29.1 35.4	42.5 50.5 58.7	68.8 80.5 93.0
1,, 8	P. M.	110	109 109 109	1112	116 118 122	128 133 140	145 152 158
S. P.	В. Н. Р.	11.7	13.1 14.6 16.0	18 19 7 21 8	24.3 27.6 33.0	40.3 48.0 57.2	66.4
28.11	P. M.	102	102 102 104	105 106 109	1111	125 130 136	142
S. P.	В. Р.	9.20	11.4 13.1 14.6	16.5 18.4 20.4	22.8 25.2 31.0	37.8 45.6 54.3	
3536	R. P. M.	932	986	100	106 109 114	120 127 132	
S. P.	В. Н. Р.	7.27 8.48 8.96	9.90 11.6 13.4	14.6 17.0 18.4	20.8 23.3 28.6	35.4	
28	P. M.	86	88 90 91	96	101	113	
S. P.	В. Н. Р.	6.07 7.03 8.23	8.72 9.90 11.4	13.3 14.6 17.0	18.9 21.1 26.7	32.7	
150	R. P. M.	7.9	883	888	96 99 105	112	
S. P.	В. Н. Р.	4.60 5.82 7.03	7.75 8.97 10.2	11.9	17.0		- 535
2811	R. P. M.	420	80.7.7	888	166		
S. P.	B. H. P.	3.64	6.54	9.90		3 1 1	
1,3%	P. M.	629	70 73	7.00			
Outlet	Feet Feet Min.	1000	1300	1600	1900 2000 2200	2400	3200
No. Bearing	C. F. M.	48,400 53,240 58,080	67.760	77.440 82.280 87.120	0.00-6	116,160 125,840 135,520	145,200

S. P	. H. P				59.0 68.0	76.0 86.0 95.5	120.0
3,	P. M				189 187 185	185 185 186	188
S. P.	В. Н. Р.			45.8	48 52 52 58 52	65.5 75.2 85.0	96.0
21/2"	R. P. M.			169	168 167 167	167 169 172	175
. P.	В. Н. Р.			32.7 34.9 37.0	39.7 42.7 48.5	56.7 65.5 74.2	97.0
2" S.	R. P. M.			152 151 150	150 150 151	152 155 158	162
S. P.	В.		26.9	28.6 30.3 32.7	35.1 37.8 44.3	52.4 59.7 68.3	91.0
134" 5	R. P. M.		141	140 140 140	140 140 142	144 148 151	156
S. P.	В. Н. Р. 1		3.0	8.8 6.9 9.1	13.5 10.2 10.2	17.0 35.3	74.2
175" S	 M.		131 2	130 130 130 2	131 132 134 4	137 141 5 145 6	150
S. P.	B. H. P. P	70	. 6.7 9.6	E 65 4	29.8	13.1 50.5 59.2	69.4
114" 8	R. P. M. I	121	120 119 119 119	119 119 120 2	121 122 122 125 3	129 133 5 138 5	144 6
Р.	В. Н. Р. Е	2.7	5.0	20.2	24.7	38.8 15.0 54.5	63.0
1" S.	R. P. M. F	108 1	107 107 107	108 108 110 110 2	1112	121 126 4 131 5	136
. P.	В. Н. Р. І	9.22	5.3.4	16.7 18.4 20.6	22.8 24.7 30.3	36.8 43.6 52.4	9.09
78" 8.	R. P. M. 1	100	1000	102 103 104 2	109	1118 123 128	133
Ъ.	В. Н. Р. 1	8.25 8.97 9.70	10.9	15.0	20.8 23.0 28.4	33.9 41.7 50.0	
S Te	R. P. M.	922	932	96	101 103 109	1114	
. P.	B. T. P.	6.80	9.70	7.0	21.3	38.8	
88" S	R. M. 1	20 00 00 10 10 10	25.00	90 1	97 98 103 2	1109	10
P.	B. I. P. I	7.558	8.63 9.60	12.8	17.9 19.6 24.2	30.0	1 1
12" S	R. M.	77	82 1	887	92 1	106	
Р.	В. Н. Р. 1	4.37 5.35 6.06	7.28 8.50 9.70	12.7	16.0 17.4 22.8		
38" S.	R. W.	69 69	73.73	828	9000		
S. P.	B. H. P.	4.872	6.07 7.28 8.50	9.70 10.9 12.1	80		
18.18	P. M.	600	99 99 99	255	8		
Outlet	Feet per Min.	1000 1100 1200	1300	1600 1700 1800	1900 2000 2200	2400 2600 2800	3000
Volumo	F. M.	48,400 53,240 58,080	62,920 67,760 72,600	77,440 82,280 87,120	91,960 96,800 06,480	5,840	54,880

faced type indicates the most efficient point of operation for each pressure.

68° F.; Pressure, 29.92 inches; Weight,

Temperature,

(TYPE HV FANS)

# -(CLARAGE)=

Inlet
Single
Width,
Single
Fan,
HV
Type
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No.

S. P.	В. Н. Р.				71.7	92.0 103.0 115.5	130.0 147.0 165.0
38	R. P. M.			182	181 179 177	177	182 186 190
S. P.	В. Н. Р.			53.7	60.0 63.3 70.5	79.3 90.3 103.5	116.5 132.0 151.0
215"	P. M.			166	164 162 162	162 165 167	171 175 180
. P.	В. Н. Р.			40.2 42.6 45.4	48.1 52.3 60.0	68 78 78 8 19 91 3	105.0 120.0 136.0
2" S.	P. M.			147 146 145	144 145 146	148 152 156	165 165 170
S. P.	В. Н. Р.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	33.0	34.6 37.1 39.8	42 46 53 9	63 73 2 85 3	99.0 113.0 128.0
134" S.	R. P. M.	* * * *	137	135 135 135	135 135 138	141 145 150	155 160 165
S. P.	В. Н. Р.		26.1	23 23 23 25 25 25 25 25 25 25 25 25 25 25 25 25	38.0 42.3	56.7 67.1 71.7	92.0 106.0 121.0
116,"	P. M.		127	125 125 125	126 127 130	134 189 143	148 153
S. P.	В. Н. Р.		20.6 22.0 23.7	26.1 28.0 31.3	34.1	53 63 73 8 23 8 23	86.5 99.0 114.0
134"	P. M.		1116	1114 1115 1116	1118 1119 123	128 133 138	144 149 155
. P.	В. Р.	15.1	16.5 17.9 19.8	22 0 24 2 26 4	23 4 33 0 40 2	48.2 57.3 66.6	78.1 91.3
1" S.	P. M.	103	102 102 102	103 105 107	109	120 125 131	136 142 148
S. P.	В. Н. Р.	13.2	16.8	22.3	27.3 31.4 37.4	45.7 54.5 65.0	75.3
78" S	R. P. M.	96	96	99 100 102	104	117 122 128	133
S. P.	В. Н. Р.	10.5	12.9 14.8 16.5	18.7 20.9 23.1	25 50 25 50	42.9 51.7 61.7	
34" 5	R. P. M.	68	88 80 83 83	94	102 107	112	
S. P.	В. Н. Р.	8.25 9.62 10.2	11.3 13.2 15.1	16.5 19.3 20.9	23.4	48.4	
3 1,86	P. M.	81881	83 84 86	88 88 80 83 88	95 98 103	108	
S. P.	В. Н. Р.	6.88 7.98 9.35	9.90 11.3 12.9	15 1 16.5 19.3	21.5 23.9 30.2	37.1	
1/2/1	P. M.	73	76 78 80	00 00 00 00 00 00	98	105	
S. P.	В. Н. Р.	5.23 6.60 7.98	8.80 10.2 11.6	13.5	21.7		
3/611	R. P. M.	65 65 67	72 72 75	777 88 83	00 00 00 00		
S. P.	В. Н. Р.	4.95	7.43 8.80 10.2	113.2			
38.11	P. M.	55 58 60	659	71 74 76			
Outlet	Feet per Min.	1000 1100 1200	1300	1700	1900 2000 2200	2400 2800 2800	3000 3200 3400
	C. F. M.	66,500 66,500 66,000	77,000	88,000 93,500 99,000	104,500	143,000	165,000 176,000 187,000

# Vo. 8 Type HV Fan, Single Width, Double Inlet

. L	В.	181	111	111	77.2	36.5	36.5
oi.	H	111		111	972	860	222
35	P. M		511		175 174 172	172	176 178 181
p.'	В.	3.5	511	5.0	0.88.0	400	83.0
ssi .	_ H	0.0.1	111	10	10 10 10	~∞c	222
20 75	P. R.			158	158 157 157	157	164 167 170
S. P.	В. Н. Р.			37.2 39.6 42.1	45 1 48 4 55 0	64 4 74 3 84 2	96.3 110.0
01	R. P. M.			142 141 140	140 140 141	145 145 148	151
S. P.	В. Н. Р.		30.5	32.5 34.4 37.1	39 9 42 9 50 3	59.4 67.7	89.2 103.5 118.3
1.84	P. M.		132	131	131 131 133	1335	151
S. P.	В. Н. Р.		24.5	28.1 30.5 33.0	25 33 35 50 50 50 50 50 50	73.8.4 73.8.4	84.2 96.8
135"	R. P. M.		1222	121	1222	128 132 136	140
S. P.	B. H. P.	17.6	19.0 20.6 22.3	21 4 6 21 4 6 21 4 6	33 8 41 0	49 0 67 3 67 2	78.7
117.48	R. P. M.	113	112	111	113	121 125 130	135
<u>6</u> ,	В.	14.3	15.7	2000	28.0 30.8 36.8	44.0 51.2 61.6	71.08
1" S	R. B. M.	100	1000	101	108	12.23	1328
E.	В. Н. Р.	11.35	14 0	19.0 20.9 28.4	25.55 24.74	41.8 4.05 4.05	1 89
18 11 S.	R. M.	9.00	888	101-10	1002	110	ud i
S. P.	В. Р.	9.35	01010	10101	E- 01 01 01 02 04 01 01 02	88 47.5 56.4	
344 8	R. W.	986	\$ 50 X	2000	101-01		
S. P.	B. H. P.	7.70 8.82 9.90	12.3	15.4	20 20 20 20 20 20 20 20 20 20 20 20 20 2	36.3	
35.11	R. M.	7.0	83	NO 00 00 00 00 00	960	102	
S. P.	В. Р.	6.33 7.43 8.63	9.80 10.9	200	20 00 00 00 00 00 00 00 00 00 00 00 00 0	34.1	
25.00	P. M.	0.1-27-	250.00	83 83	38.85	66	
S. P.	B. H. P.	4.95 6.03 6.88	8 25 9 63 11 0	12.3 14.0 15.7	2 0 0 2 0 0 2 0 0		
8 86	R. P. M.	623	658 71	123	888		
S. P.	В. Р.	4.02	8 89 9 89 69 69	12.0	1.6.7		
N. 8	P. M.	10 to 10	252	72.02	100		
Outlet	Feet, per Min.	1000	1300	1,500 1,700 1,800	1900 2000 2200	2400 2600 2800	3200
Volume	F. M.	55,000 60,500 66,000	77,000	88,000 93,500 99,000	04.500 10.000 21.000	32,000 43,000 54,000	76,000

NOTE The black faced type indicates the most efficient point of operation for each pressure.

ir: Temperature, 68 F.: Pressure, 29.92 inches; Weight,

100
*
67
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Inl
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46
3
2
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163
200
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Si
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-
-
100
Armen
200
Section .
M
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250
100
Person
7
1
1000
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02
- 4
- 10
(Mari)
1940
240
-
100
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HW 1
upe HV
upe HV
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Type HV
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Type HV
Type HV
81/2 Type HV
Type HV
81/2 Type HV
81/2 Type HV
81/2 Type HV
To. 81/2 Type HV
o. 81/2 Type HV
To. 81/2 Type HV
To. 81/2 Type HV
To. 81/2 Type HV
To. 81/2 Type HV

Weltower	C. F. M.	62,100 68,310 74,520	86.940 86.940 93.150	105,870	124 200	149.040	198.720
Outlet	Poet Min.	11000	1400	1,600	2000	2800	3200
N.T.	P. M.	522	85.28	585			
8 P.	B. P.	4 65	8.40 10.0 11.5	247			
	P. B.	200	99 01-	25 E	82		
100	H	151-01	110 0	21-21	25.27		
	P. P.	0.00	Se to to			01	
00	M, H.	688 7 689 9 70 10	202	78 80 82 82 21	88 88 93 34 34	6	
P.	B. P.	288 2	\$1 t- 12	-101-	01000	P1	
14 S	N.	25.5	86.58	25.55	282	102 4	
0. 10.	B. P.	0.00	1-01-	91-9	488	55 A	
1,7%	P. M.	8.4	80 80 PE	888	94 96 101	106	
S. P.	H. H.	13.7	28.8	23.6	23 55 55 25 55 25 25 55 25 55 25 25 55 25 25 25 25 25 25 25 25 25 25 25 25 2	58.4	
38.	P. M.	06	8888	88.88	101	110	126
8. P.	H.	4.	20.20	52 52 53 50 50 50	25.52	73.55	8 60
	, D.	- 01	90 to 10	2010	-0101	222	0.0
1. 8.	R. M. H	97	96 96	99 20 20 20 20 20 20 20 20 20 20 20 20 20	02 33 04 08 4 3	13 5 5 24 7	28 34 10 39 11
ď.	В. Р. Р	- 1	8000	8 52 8	01 00 00	54.3	2 3 3 1 6 1 6 1 6 1 6 1
1.75.1	B.		108	107	1111	120	135 140 146
e, e	В. Н. Р.		23.3	29.5 31.7 35.4	38.5 41.9 51.2	60.2 71.5 83.2	97 2
1350	P. M.		118	118	1120 123 123	127 131 135	139 145 150
" S. P.	В.		3.0	336	55.7.2	25.00	1119.
134"	R. P.		10 E	5 12 6 12 7 12 7	988	2 133	0 0 146
trà	E. H.	1	52	7 45	7 48	3 71 7 82 1 96	6 1111 1 127 5 144
P	. P.		63	1.60	480	10,10,00	2000
S	M. H.			888 78 4 4 4	387 53 55 55 55 55 55 55	39 7 43 8 47 10	51 11 56 13 60 15
0.	3. P. P			2000	7.08	0.80	0.10.10
235	R. M.	111		156	154 153 153	155	161 165 170
S. P.	В. Н. Р.			60.6	67.8 71.5 79.5	89.5 102.0 117.0	132.0 149.0 171.0
3/1	R. P. M			172	171 169 167	166 167 169	172 175 178
S. P	H.B	111		12	93.4	104 116 130	146 166 186

# 10. 81/2 Type HV Fan, Single Width, Double Inlet

Outlet W. S. P. 14, S. P. 14, S. P. 14, S. P. 14, S. P. 15, S. P. 115, S. P. P. M. H. P. P	Volume
B.         R.         B.         R.<	Velocity
B.         R.         B.         R.<	2
P. W. S. P.         H. P. P. M. H.	
B R R B R B R B R B R B R B R B R B R B	
P.         1.5         P.         1.4         S. P.         P. M. H. P. P. M. H. P	
R.         B.         R.         B.<	
B. R.	-
B.         R.         B.         R.<	
R.         B.         R.         R.         B.         R.<	
S. P. 34. S. P. 15. S. P. 11 S. P. 114. S. P. 115. S. P. 134. S. P. 27. S. P. 215. S. P. 215. S. P. 215. S. P. 14. P. P. M. H.	×
R.         B.         R.         B.<	à
H. B. R. R. R. B. R. R. B. R. R. B. R. R. R. B. R. R. B. R. R. B. R. R. R. B. R. R. B. R. R. B. R. R. R. B. R. R. R. B. R.	-
B.         B.<	
R. B. R	4
B. R.	0,
P.         1 ' S. P.         114" S. P.         115" S. P.         134" S. P.         2" S. P.         219" S. P.           P. M. H. P. P. M. H	
R. B. R.	4
B. R. B. II. P. M. H. P. P. M. H. P. P. M. H. P. II. B. II. B. II. B. II. B. III. B. II. B.	
R. B.	
R. B.	
B. R. R. B.	-
H. B. R. R. B. R. R. B.	
E. P. 134" S. P. 2" S. P. 219" S. P. 219" S. P. 134" S. P. 219 S. P. M. H. P. M. H. P. M. H. P. P. M. H. P. P. M. H. P. P. P. M. H. P. P. P.	1.22
6 125 34.5 1.24 36.6 133 44.7 1.49 5.8 P. 1.49 5.8 P. 1.49 5.9 P. 1.49 5.8 P. 1.49 5.9 P. 1.49 5.8 P. 1.49 5.8 P. 1.49 5.9 P. 1.49 5.8 P. 1.49 5.9 P.	
R. B.	
B. R. B. R. B. R. B. B. R. B.	2
2" S. P. 212" S. P. R. B. R. B. H. P. M. H. P. I. P. I. J.	. 1 .0
A. H. P. M. H. P. J.	9
P. P. M. H. P.	
R. B. B. M. H. P.	
S. P. H. P. H. P. S. P.	0
. 1 6. 1	
80 24	.
3, S. X.	_

NOTE-The black faced type indicates the most efficient point of operation for each pressure.

Pressure, 29.92 inches; Weight,

Temperature, 68° F.;

# =(CLARAGE)=

Inlet
Single
Width,
Single
Fan,
HV
Type
6
No.

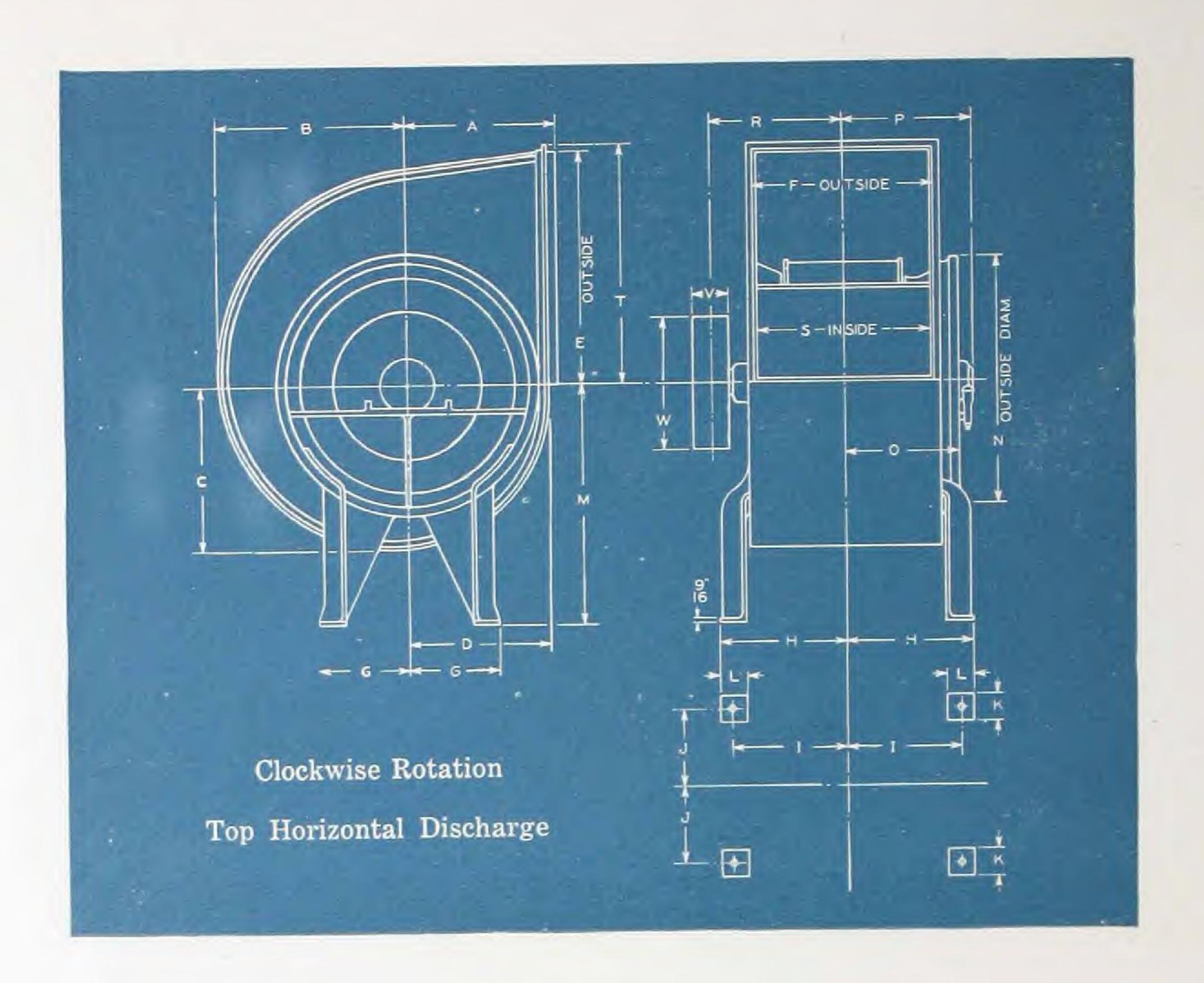
3" S. P.	R. B.			162 87.0	161 159 94.0 158 104.5	157 116.5 158 130.5 159 146.0	62 164.0 65 186.0 68 209.0
P.	В.			8.0	0.0	0.00	2.0 1
21/2" S.	R. M. H			47 6	44 88	44 10 46 11 49 13	52 14 55 16 60 19
P. 2	B. F. P. P			54.0	66.2	86.4 00.0 15.5 1	32.5 52.0 72.0
2" S.	. W.			131 130 129	128 129 130	131 135 139 1	142 147 151
S. P.	В. Н. Р. Р		41.8	43.9 47.0 50.5	54.3 59.2 68.1	80 .0 92 .7 08 .0	25.5 43.0 63.0
134" S	P. M. I		122	121 120 120	120 120 123	126 129 133	137 142 146 146
S. P.	В. Н. Р. 1	7	34.8	37.6 41.1 44.5	48.0 53.7 62.7	71.8 85.0 98.8	116.0 134.0 153.0
11/2"	R. P. M.		113	===	112 113 116	119 123 128	132 136 141
S. P.	В. Н. Р.		26.1 27.8 30.0	33.1 35.5 39.7	43.2 47.0 57.5	67.5 80.0 93.4	109.5 126.0 144.0
114"	R. P. M.		103 102 102	102 102 103	105 106 110	114 1118 123	128 132 137
S. P.	В. Н. Р.	19.2	20.9 22.6 25.1	27.8 30.6 33.4	37.3 41.8 50.8	61.0 72.4 84.2	98.8 115.5 134.0
1,, 8	R. P. M.	92	91 91	93	97 98 102	107 111 111	121 127 132
S. P.	В. Н. Р.	16.7	18.8 20.9 23.0	26.1 28.2 31.3	34.8 39.7 47.3	57.8 69.0 82.2	95. 5
11811	R. P. M.	85	855	88 88 16	95 99	104 109 114	119
S. P.	В.	13.2	16.4 18.8 20.9	23.7 26.5 29.2	32.7 36.2 44.5	54.3 65.5 78.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
34"	R. P. M.	79	79 80 82	85 85 87	88 91 95	100	
S. P.	В. Н. Р	10.5 12.2 12.9	14.3 16.7 19.2	20.9 24.4 26.5	29.6 33.4 41.1	50.9	
28/2	. P. M.	0 72 73 73	74 75 76	78 80 82	84 87 91	102	
S. P.	B. H. P	8.7 10.1 11.9	12.5 14.3 16.4	19.2 20.9 24.3	27.1 30.3 38.3	47.0	
12	F. P.	55 65 66 66	68 69 71	74 75 78	883	93	
' S. P.	H. H.	8.3	11.2	17.1	24.4		
	P. P. N	23 27 58 00 60	40 62 10 64 9 66	3 69 7 71 2 74	76		
" S. P.	M. H. 1	20.00	6 9. 1 12.	3 14. 8 19.		* * *	
1.4"	H.A.	4 10 10	9 21 21	999	* * *	* * * *	
Outlet	Feet per Min	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200 3200 3400
Volumo	C. F. M.	69,600 76,560 83,520	90,480 97,440 04,400	111,360 118,320 125,280	132,240 139,200 153,120	167,040 180,960 194,880	208,800 222,720 236,640

No. 9 Type HV Fan, Single Width, Double Inlet

S. P.	В. Н. Р.		* * * *		84.9 89.0 97.5	109.4 123.3 137.1	154.6
3,,	R. P. M	1 1 1	* * * * * * * * * * * * * * * * * * *		156 155 153	153 153 154	156
S. P.	В. Н. Р.			65.8	69.6 74.5 83.5	94.0 107.8 121.8	137.8
21/2"	R. P. M.			141	140 140 140	140 141 143	145
. Р.	В. Н. Р			47.0 50.2 53.3	57.1 61.3 69.6	81.4 94.0 106.5	121.8
2′′ S.	R. P. M.			127 126 125	125 125 126	127 129 132	135
S. P.	В. Н. Р		38.7	43.5	50.5 54.3 63.7	75.2 85.6 98.0	112.6
134"	R. P. M.		118	1117	1117 1117 1118	113 122 126	130
S. P.	В. Н. Р.		33.0	35.5 38.7 41.8	45.3 48.7 57.8	68.6 79.2 92.6	122.5
11/2"	R. P. M.		109	108 108 108	109 1110 1111	1114 1118 120	125
S. P.	В. Н. Р.	22.3	24.0 26.1 28.2	30.7 33.4 36.6	40.0 42.8 51.8	62.0 72.4 85.0	99.5
114"	R. P. M.	101	100 99 99	99 99 100	101 102 104	107 111 1115	119
. Р.	В. Н. Р.	16.7	19.8 21.6 23.7	26.1 28.9 32.0	35.5 39.0 46.6	55.8 64.8 78.0	90.5
1" S.	R. P. M.	90	688	90 92 92	93 98 98	101 105 109	1114
S. P.	В. Н. Р.	13.2 14.3 16.0	17.8 19.5 21.6	24.0 26.5 29.6	32.7 35.5 43.5	53.0 62.6 75.2	0.78
7/8" S. P.	R. P. M.	83 83 83	883 83 44	8 8 8 7 8 7	89 91 94	98 102 107	1111
S. P.	В. Н. Р.	11.8 12.9 13.9	15.7 17.4 19.1	21.6 24.4 26.8	30.0 33.0 40.7	48.8 60.0 71.7	
34"	R. P. M.	77	77 78 79	80 81 83	84 86 91	95 99 104	
S. P.	В. Н. Р.	9.65 11.2 12.5	13.9 15.7 17.4	19.5 22.0 24.4	27.5 30.6 37.6	46.0	
18/2	P. M.	70 70 70	72 73 73	77 77	80 82 86	96	
S. P.	В. Н. Р.	8.00 9.41 10.8	12.4 13.8 15.3	17.4 19.8 22.6	25.25 25.35 34.35 8.35	43.2	4 4 4 4 4 4 7 5
72.	P. M.	63 63 64	65 68 68	70 72 74	76 79 83	00	
S. P.	В. Н. Р.	6.27 7.65 8.70	10.4 12.1 13.9	15.7 17.8 19.8	23.0 25.0 32.7		
38,	P. M.		63	65 69	71 74 79	1 4 1 1 4 1 1 4 1 1 4 1	
S. P.	В.	5.08	8.70 10.4 12.1	13.9 15.7 17.4	19.5	1 1 1	
74"	P. M.	47 49 51	55	62 64 64	67	+ + + + + + + + + + + + + + + + + + + +	
Outlet	F et per Min.	1000 1100 1200	1300 1400 1500	1600 1700 1800	1900 2000 2200	2400 2600 2800	3200
Jolume	C. F. M.	69,600 76,560 83,520	90,480 97,440 04,400	11,360 18,320 25,280	32,240 39,200 53,120	67,040 80,960 94,880	08,800 22,720

NOTE The black faced type indicates the most efficient point of operation for each pressure.

.0. Temperature, 68°F.; Pressure, 29.92 inches; Weight, Standard



### Type HV Fan—Sizes 1½ to 3—Arrangement A Standard Single Width

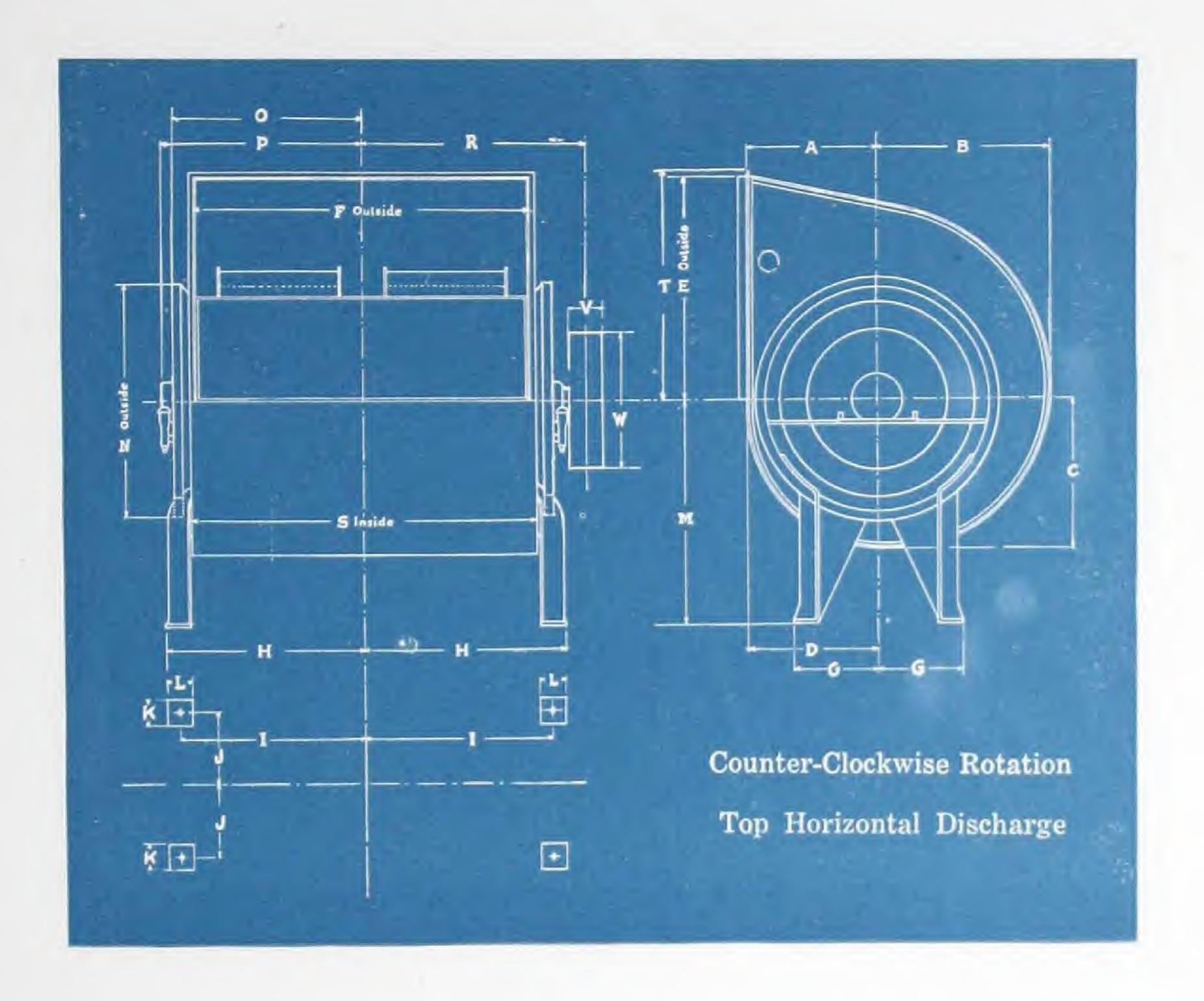
Dimension Table

Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	н	I	J	K	L	M	*N	0
134 134 2	1436 1578 1786	165% 1956 2136	14% 1634 18%	12% 1438 1638	191/6 221/4 251/4	14% 17% 19%	73/2 88/4 10	11 14 12 78 14 76	10 11 76 12 %	614 756 838	21/2 27/8 31/4	2½ 2½ 3¼	20½ 23½ 26¾ 26¾	201/4 233/4 27	91 11 12
214 235 3	19 % 21 % 24 %	24 % 26 % 31	21 23 1/4 27	17% 19% 22%	2858 3134 3838	223% 24% 29%	1134 1232 15	16 175% 20%	14% 15% 18%	9 % 10 ½ 12 ¾	35% 4 4!2	35% 4 43%	30 33 39½	30% 34 40%	14 16 18

"Diameter of Pipe to fit over Inlet.

				dia						KEYWAY		CIL-II	Amakas	
Fan Size	P	R	S	Т	W	V	AB	AC	AD	AE	Wdth.	Dpth.	Shaft Diam.	Anchor
114	1136	1334	145%	20 1/4	8	4 4 5	23 1/2	15%	17%	13%	\$66	1/8	1.56	5/8
134	1336	1434	173%	23 1/4	10		27 1/6	17%	20%	15%	\$16	1/8	1.56	5/8
2	1438	1634	1935	26 1/4	14		30 3/8	20%	23	17%	378	1/8	1.76	5/8
234	16%	1834	21%	29%	16	5	34	22%	25%	1936	3/8	3.6	1 10 10 10 10 10 10 10 10 10 10 10 10 10	56
232	17%	1934	24%	32%	18	5	3714	24%	28%	21%	3/8	3.6		58
3	20%	22	29%	39%	22	6	4414	29	333%	25	3/2	3.6		58



### Type HV Fan—Sizes 1½ to 3—Arrangement A Standard Double Width

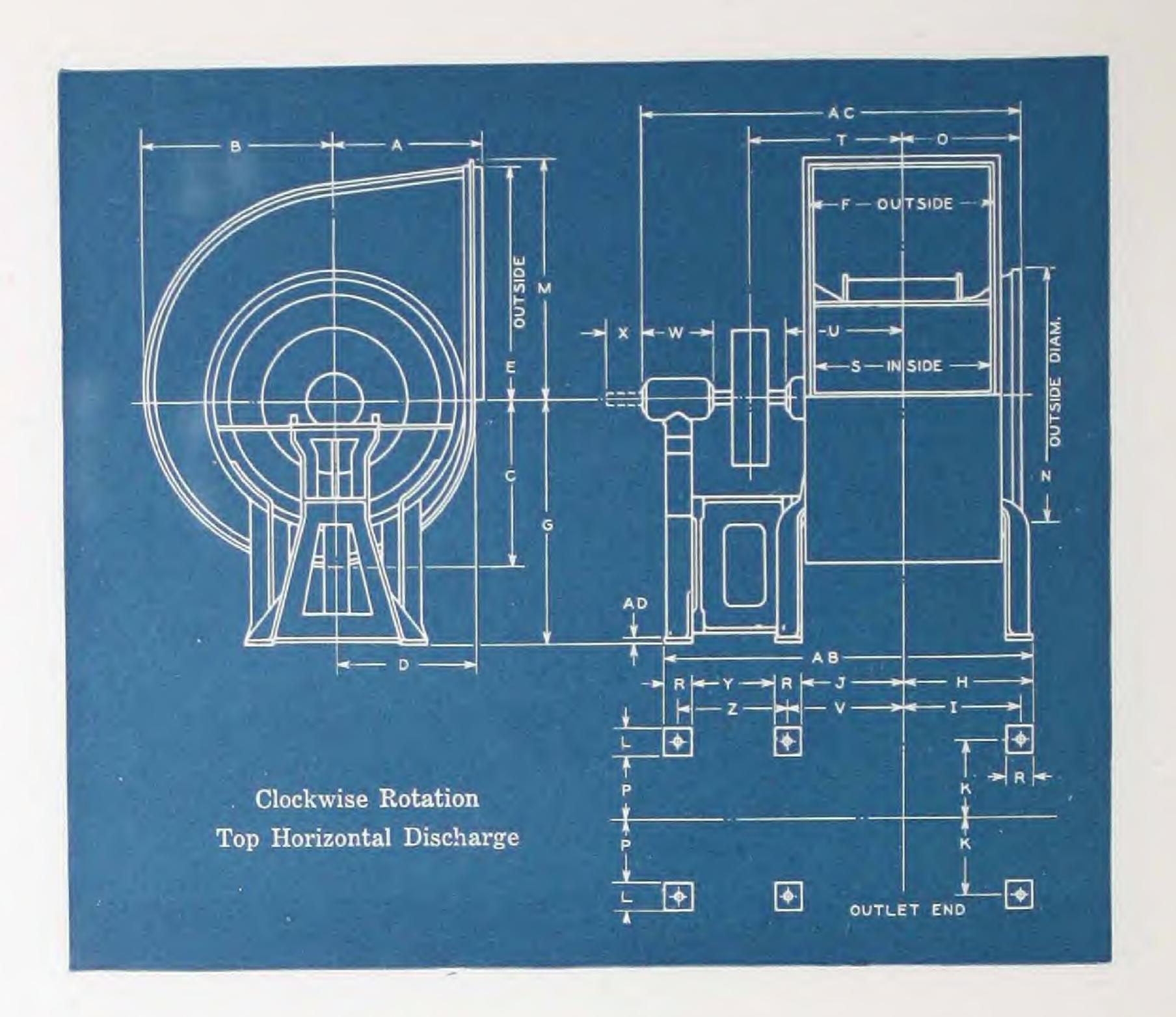
Dimension Table

Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	H	1	J	K	L	M
134 134 2 234 234 232 3	$\begin{array}{c} 14\frac{1}{6} \\ 15\frac{7}{8} \\ 17\frac{5}{8} \\ 19\frac{7}{6} \\ 21\frac{9}{6} \\ 24\frac{7}{6} \end{array}$	1658 1936 2135 2436 2676 31	14% 1634 1836 21 23 % 27	12% 143% 163% 17% 19% 22%	19 % 22 % 25 % 31 % 38 %	29 7 to 34 7 to 39 7 to 44 7 to 48 10 to 58 10 t	7 1 2 8 3 4 10 11 14 12 12 15	18% 21% 24% 27 29% 35%	17 % 19 % 22 % 25 % 28 % 33 %	614 736 839 976 1034 1234	255 276 358 4 452	216 276 314 358 4 436	20 ! 28 ! 26 ! 30 : 38 :

									KEY	WAY		1 - 1 -
Fan Size	*N	0	P	R	S	T	W	V	Width	Depth	Shaft Diam.	Ancho
134 134 2 234 232 3	2034 2334 27 3058 34 4034	1714 19% 2236 2536 2876 3338	1784 2034 2338 2634 2838 3334	20 14 23 14 26 29 14 32 37 14	2934 3438 39 4838 4834 5832	20 % 23 % 26 % 29 % 32 % 39 %	8 10 14 16 18 22	5 5 6 6 7 8	A.6 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8		1.56 1.56 1.76 1.76 1.76 1.76 1.76	STANTON CONTRACTOR OF THE PARTY

<sup>\*</sup>Diameter of Pipe to fit over Inlet.



### Type HV Fan—Sizes 1½ to 3—Arrangement B Standard Single Width

### Dimension Table

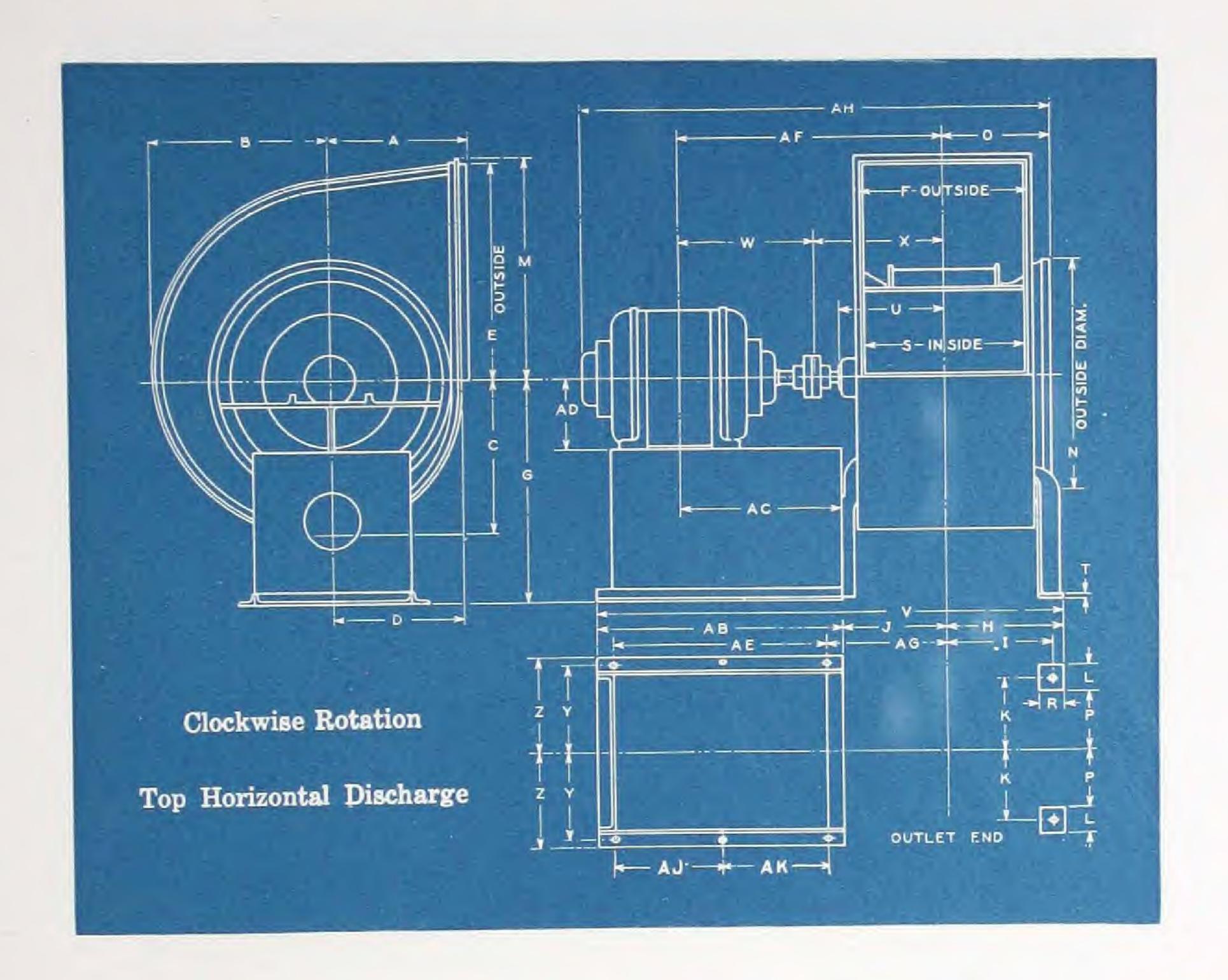
Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	Н	Í	J	K	L	M	*N	0	P	R	S	Т
13/2 13/4 23/4 23/2 3	$\begin{array}{c} 14\%_{6} \\ 15\%_{8} \\ 17\%_{8} \\ 19\%_{6} \\ 21\%_{6} \\ 24\%_{6} \end{array}$	$16\frac{5}{8}$ $19\frac{1}{6}$ $21\frac{1}{2}$ $24\frac{1}{6}$ $26\frac{7}{6}$ $31$	14 %6 16 %6 18 %6 21 23 %6 27	$12\frac{1}{16}$ $14\frac{3}{8}$ $16\frac{1}{8}$ $17\frac{5}{6}$ $19\frac{1}{6}$ $22\frac{5}{6}$	$19\frac{1}{16}$ $22\frac{1}{4}$ $25\frac{1}{4}$ $28\frac{5}{8}$ $31\frac{3}{4}$ $38\frac{1}{8}$	$\begin{array}{c} 14\frac{13}{16} \\ 17\frac{14}{4} \\ 19\frac{1}{16} \\ 22\frac{1}{8} \\ 24\frac{9}{16} \\ 29\frac{7}{16} \end{array}$	20½ 23½ 26¾ 30 33 39½	$11\frac{1}{4}$ $12\frac{1}{6}$ $14\frac{1}{6}$ $16$ $17\frac{5}{8}$ $20\frac{9}{6}$	$\begin{array}{c} 10 \\ 11\frac{3}{8} \\ 12\frac{13}{16} \\ 14\frac{3}{16} \\ 15\frac{7}{8} \\ 18\frac{7}{16} \end{array}$	83/4 915/6 113/6 123/8 135/8 161/6	$\begin{array}{c} 6\frac{1}{4} \\ 7\frac{5}{26} \\ 8\frac{3}{8} \\ 9\frac{7}{16} \\ 10\frac{1}{2} \\ 12\frac{3}{4} \end{array}$	$2\frac{1}{2}$ $2\frac{7}{8}$ $3\frac{1}{4}$ $3\frac{5}{8}$ $4$ $4\frac{1}{2}$	20 1/6 23 1/4 26 1/4 29 5/8 32 3/4 39 1/8	201/4 233/4 27 305/8 34 403/4	9 <sup>15</sup> / <sub>16</sub> 11 <sup>3</sup> / <sub>8</sub> 12 <sup>9</sup> / <sub>16</sub> 14 <sup>1</sup> / <sub>16</sub> 16 <sup>1</sup> / <sub>4</sub> 18 <sup>3</sup> / <sub>4</sub>	5 578 634 758 812 1012	21/2 27/8 31/4 35/8 4 41/2	$14\frac{5}{8}$ $17\frac{1}{16}$ $19\frac{1}{2}$ $21\frac{15}{16}$ $24\frac{3}{8}$ $29\frac{1}{4}$	14 161/4 17 193/4 21 243/6

<sup>\*</sup> Diameter of Pipe to fit over Inlet.

T)		4.7	***	**	40									PUL	LEY	KEY	WAY	Cl C	A 1-
Fan Size	U	V	W	X	Y	Z	AB	AC	AD	AE	AF	AG	AH	Diam	Wdth	Wdth	Dpth	Shaft Diam	Anch Bolts
1½ 1¾ 2 2¼ 2½ 3	$10\frac{1}{16}$ $12\frac{1}{4}$ $13\frac{5}{8}$ $15\frac{5}{6}$ $16\frac{5}{6}$ $18\frac{5}{8}$	$\begin{array}{c} 10 \\ 11\frac{7}{6} \\ 12\frac{1}{8} \\ 14\frac{3}{6} \\ 15\frac{7}{8} \\ 18\frac{7}{6} \end{array}$	8 9 9 10½ 10½ 11½	51/8 53/8 61/8 61/8 63/8	85/8 103/8 101/4 117/8 115/8 133/8	$\begin{array}{c} 11\frac{1}{8} \\ 13\frac{1}{4} \\ 13\frac{1}{2} \\ 15\frac{1}{2} \\ 15\frac{3}{8} \\ 17\frac{7}{8} \end{array}$	$33\frac{5}{8}$ $38\frac{7}{8}$ $42\frac{3}{8}$ $47\frac{1}{2}$ $50\frac{7}{8}$ $59$	35 1/6 40 1/2 43 1/8 48 1/6 52 3/8 60 1/2	1/2 1/2 9/16 9/16 9/16 9/16 5/8	$17\frac{5}{8}$ $20\frac{5}{16}$ $23$ $25\frac{5}{8}$ $28\frac{3}{16}$ $33\frac{1}{8}$	$\begin{array}{c} 13 \% \\ 15 \% \\ 17 \% \\ 17 \% \\ 19 \% \\ 21 \% \\ 21 \% \\ 25 \end{array}$	$23\frac{1}{2}$ $27\frac{1}{6}$ $30\frac{3}{8}$ $34$ $37\frac{1}{2}$ $44\frac{1}{4}$	$\begin{array}{c} 15\%_{16} \\ 17\%_{16} \\ 20\%_{14} \\ 22\%_{16} \\ 24\%_{14} \\ 29 \end{array}$	8 10 14 16 18 22	4 4 5 5 5 6	5/16 5/16 3/8 3/8 3/8 1/2	1/8 1/8 1/8 1/8 1/8 1/8	1 %6 1 %6 1 %6 1 %6 1 %6 1 %6 1 %6	5/8/8/8/8/8

TYPE HV FANS)
77% EFFICIENT



### Type HV Fan-Sizes 1½ to 3-Arrangement I Standard Single Width

### Dimension Table

Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	H	I	J	K	L	M
$1\frac{1}{2}$ $1\frac{3}{4}$ $2$ $2\frac{1}{4}$ $2\frac{1}{2}$ $3$	$14\frac{1}{16}$ $15\frac{7}{8}$ $17\frac{5}{8}$ $19\frac{7}{16}$ $21\frac{3}{16}$ $24\frac{7}{16}$	$16\frac{5}{8}$ $19\frac{1}{6}$ $21\frac{1}{2}$ $24\frac{1}{6}$ $26\frac{7}{6}$ $31$	14 % 16 % 18 % 21 23 % 27	$\begin{array}{c} 12 \% \\ 14 \% \\ 16 \% \\ 16 \% \\ 17 \% \\ 19 \% \\ 22 \% \\ 6 \end{array}$	19 1/6 22 1/4 25 1/4 28 5/8 31 3/4 38 1/8	$\begin{array}{c} 14^{13}_{16} \\ 17^{5}_{16} \\ 19^{11}_{16} \\ 22^{1}_{8} \\ 24^{9}_{16} \\ 29^{7}_{16} \end{array}$	$20\frac{1}{2}$ $23\frac{1}{2}$ $26\frac{3}{4}$ $30$ $33$ $39\frac{1}{2}$	1134 1256 1476 16 1758 2096	$10$ $11\frac{7}{16}$ $12\frac{13}{16}$ $14\frac{3}{16}$ $15\frac{7}{8}$ $18\frac{7}{16}$	$10$ $11\frac{3}{6}$ $12\frac{7}{6}$ $13\frac{5}{8}$ $15\frac{3}{8}$ $18\frac{3}{6}$	6 1/4 7 5/6 8 3/8 9 7/6 10 1/2 12 3/4	21/2 27/8 31/4 35/8 4 41/2	20 ½ 23 ½ 26 ½ 29 ½ 32 ¾ 39 ½

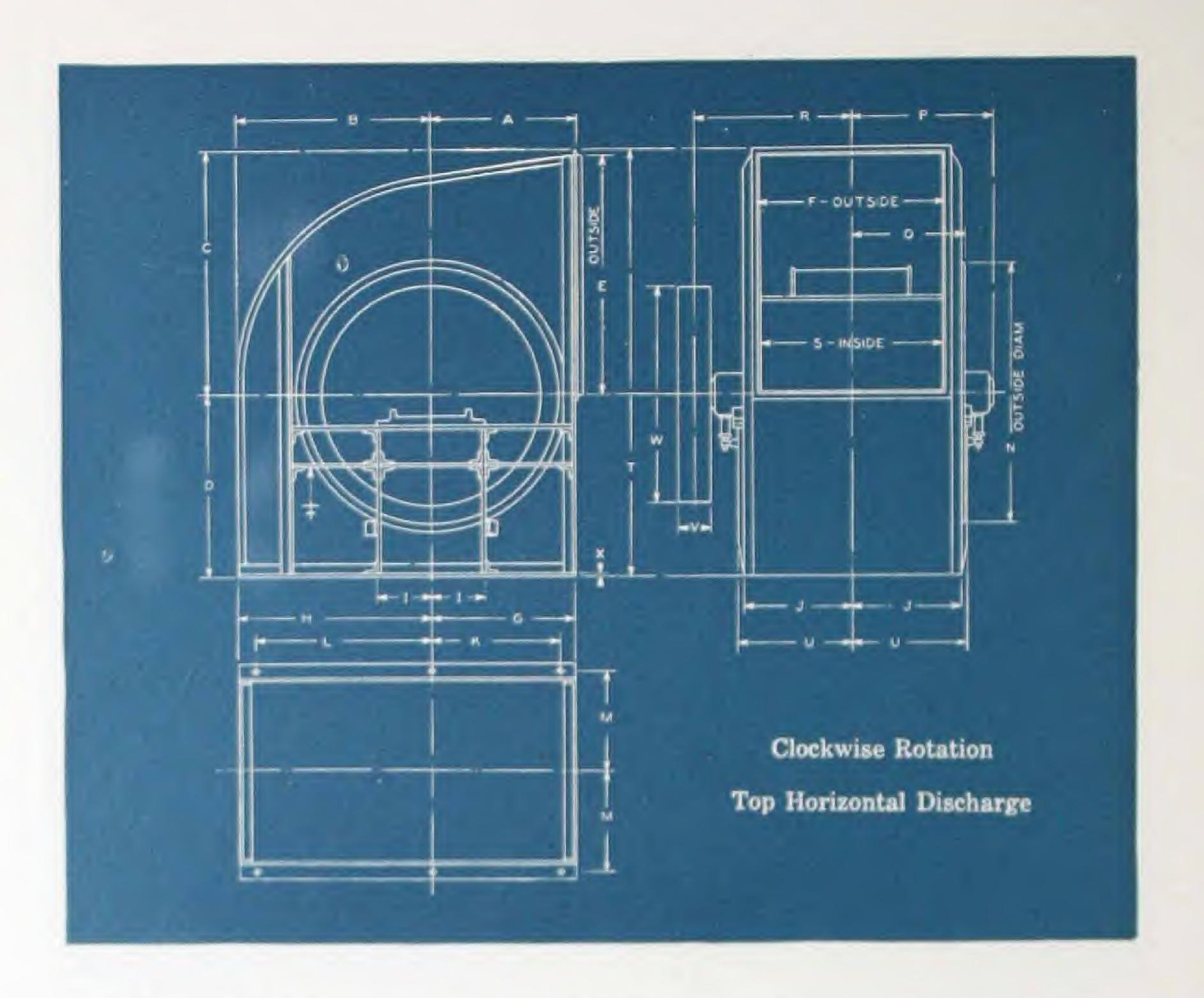
	1		4	-		TT.	U	v	KEY	WAY	Shaft	Ancho
Fan Size	*N	0	P	R	5	1	U	Δ.	Width	Depth	Diam.	Bolts
1½ 1¾ 2 2¼ 2½ 3	201/4 233/4 27 305/8 34 403/4	$9^{15}_{16}$ $11^{7}_{16}$ $12^{9}_{16}$ $14^{1}_{16}$ $16^{1}_{4}$ $18^{3}_{4}$	5 578 684 758 812 1012	$2\frac{1}{2}$ $2\frac{7}{8}$ $3\frac{1}{4}$ $3\frac{5}{8}$ $4$ $4\frac{1}{2}$	$14\frac{5}{8}$ $17\frac{1}{16}$ $19\frac{1}{2}$ $21\frac{5}{6}$ $24\frac{3}{8}$ $29\frac{1}{4}$	1/2 1/2 9/16 9/16 9/16 5/8	$\begin{array}{c} 10\frac{11}{16} \\ 12\frac{14}{4} \\ 13\frac{5}{8} \\ 15\frac{5}{16} \\ 16\frac{5}{16} \\ 18\frac{5}{8} \end{array}$	$14\frac{7}{16}$ $16$ $17\frac{3}{8}$ $19\frac{3}{6}$ $20\frac{3}{6}$ $23\frac{1}{8}$	5/6 5/6 3/8 3/8 3/8 1/2	1/8 1/8 1/8 1/8 1/8 1/8	1 % 6 1 % 6 1 % 6 1 % 6 1 % 6 1 % 6 1 % 6	200000000000000000000000000000000000000

\*Diameter of Pipe to fit over Inlet.

Note:-Dimensions V, W, Y, Z, AB, AC, AD, AE, AF, AG, AH, AJ and AK dependent upon size and type of motor used.

(TYPE HV FANS) 77% EFFICIENT)

# CLARAGE



### Type HV Fan—Sizes 3½ to 9—Arrangement A Full Housed—Standard Single Width

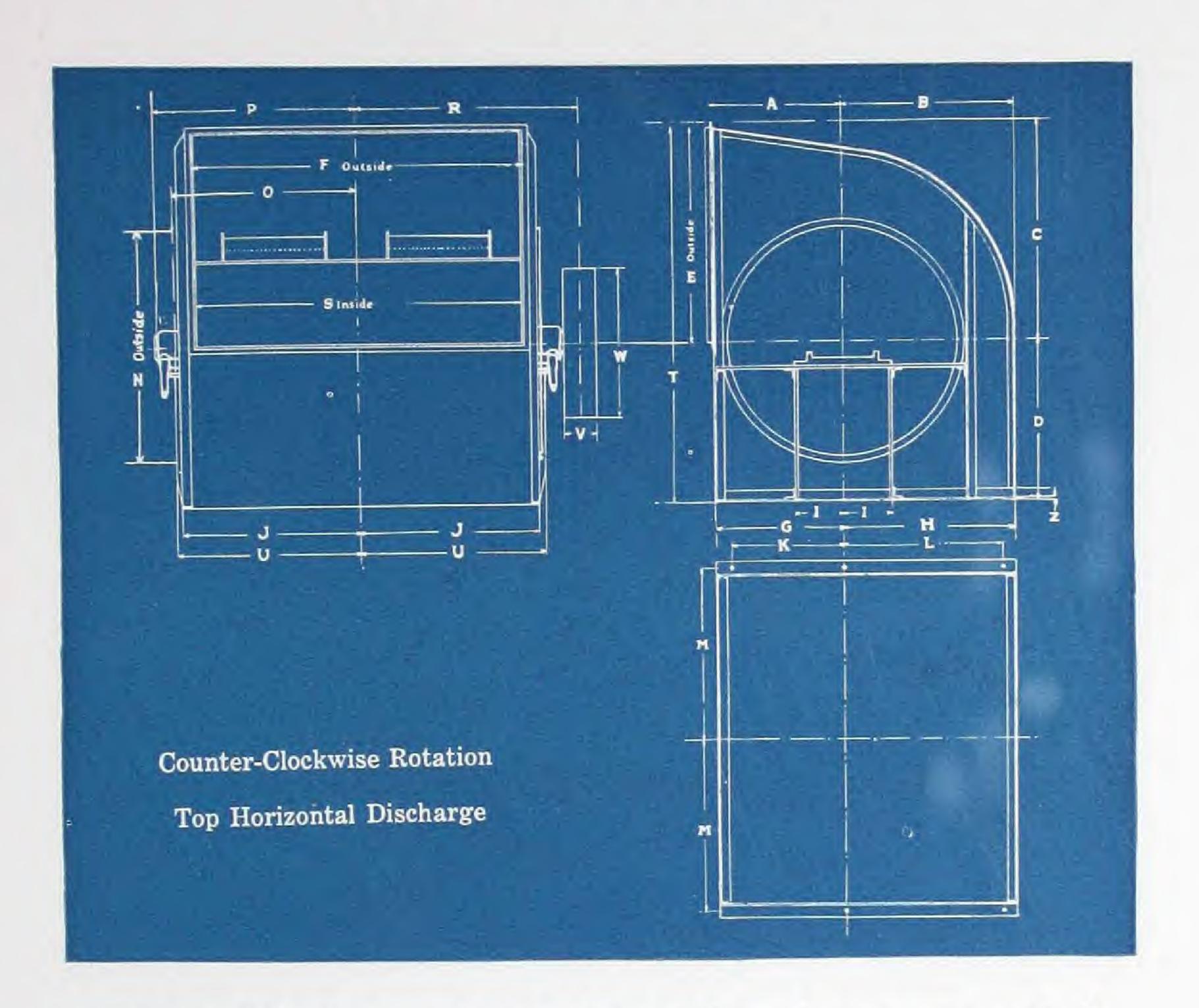
Dimension Table

Dimensions are in Inches

Fan Size	A	E	C	D	E	F	G	H	1	J	K	L	M	*N
日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日	27 14 30 % 34 % 38 % 42 % 46 % 50 % 57 % 61 % 60 %	10 11 12 12 12 12 12 12 12 12 12 12 12 12	5176 5176 5176 5176 5176 9176 9176 9176 9176 9176 9176 9176 9	88% 48 48 58% 57 61% 75 88% 88%	50% 57% 57% 68% 70 75% 82% 89 95% 101% 108	54 1 4 59 1 4 49 1 4 59 1 4 58 1 4 78 1 5 88 1 5 88 1 5	26 14 30 14 34 18 42 18 45 16 49 16 65 16 65 16	36% 41% 51% 57 62% 67% 72% 77% 88 93	10 11 12 13 14 15 16 16 17 17	20% 28% 25% 28% 30% 36% 39% 41% 44% 47%	23 27 31 34 38 42 48 48 52 52 53 53	33 37 1-5 43 47 54 58 62 67 1-5 77 1-5 77 1-5 82 87	25% 25% 26% 26% 36% 36% 36% 41% 41%	61 68 75 81 95 102 109 116 122

<sup>&</sup>quot; Discouter of Pipe to fit over Inlet.

Van	.0.	p.	R	8	· · · · · · · · · · · · · · · · · · ·	U	W	v	X	KEY	WAY	Shaft	Ancho
										Width	Depth	Diam.	Bolts
日本 日	20 % A 20	2014 2014 2014 2014 2014 2014 2014 2014	200 to 100 to 10	30 14 50 14 50 14 50 14 50 14 70 14 70 14 70 14	79% 50% 101% 112% 124% 146% 157% 168% 178%	21 % 23 % 25 % 25 % 25 % 35 % 46 % 46 % 46 % 51 %	28 36 42 48 54 62 68 74 86 92 86	6 1-1-10 M M -1-10 M M -1-	100000000000000000000000000000000000000	September of the latest designation of the l		State of the late	The state of the s



### Type HV Fan—Sizes 3½ to 9—Arrangement A Full Housed—Standard Double Width

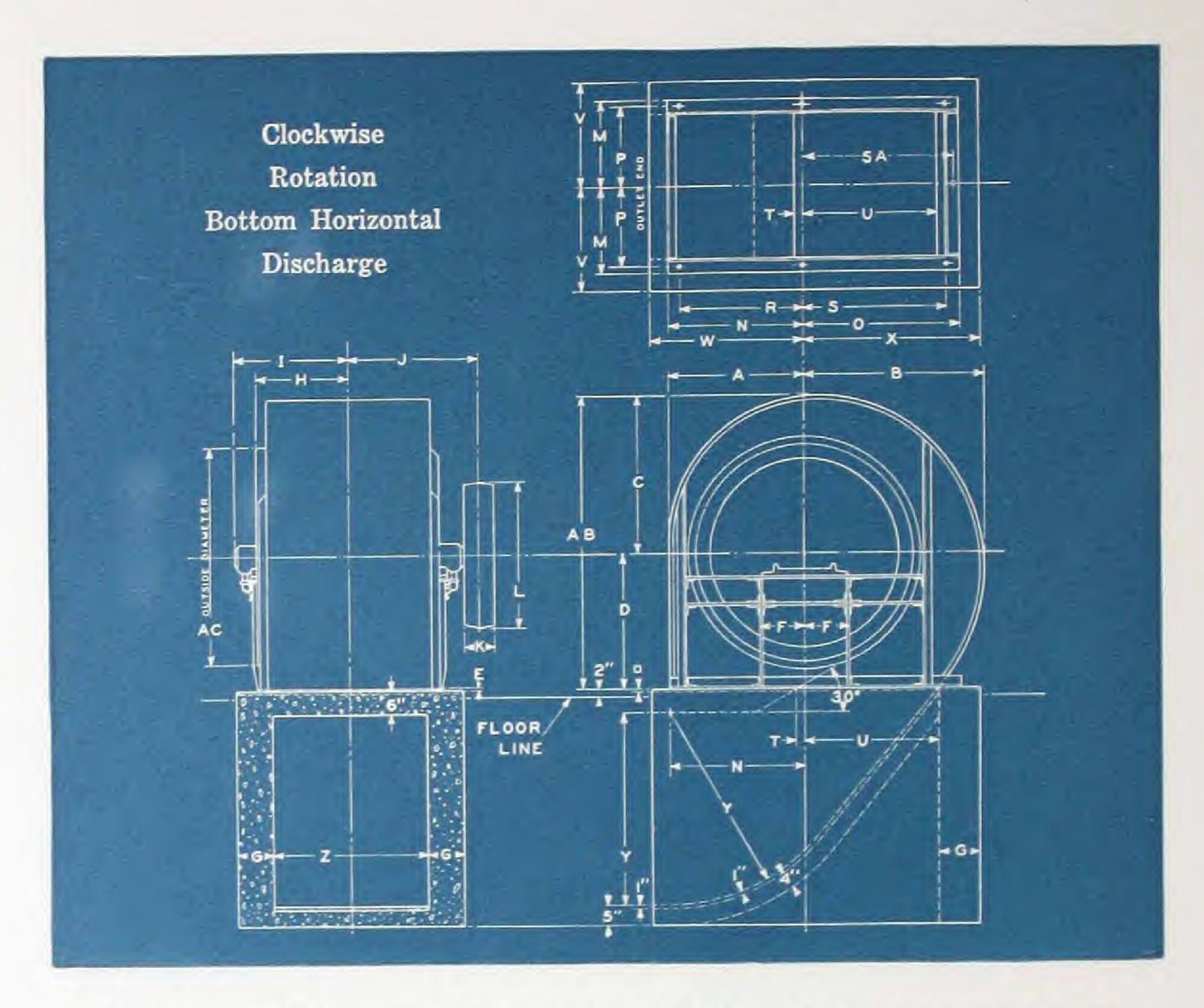
### Dimension Table

Dimensions are in Inches

Fan Size	A	В	С	D	E	F	G	Н	I	J	K	L	M	*N
3½ 4½ 5½ 5½ 6½ 7½ 8½ 9	271/8 3015/6 345/8 381/2 423/8 461/4 501/8 573/4 615/6 657/6 691/8	363/8 413/6 463/6 513/6 57 623/6 675/6 723/2 773/2 823/8 88 93	45 % 51 % 58 % 64 % 64 % 77 % 85 % 91 % 98 % 104 % 111 % 118 %	33 <sup>3</sup> / <sub>4</sub> 38 <sup>3</sup> / <sub>4</sub> 43 48 52 <sup>1</sup> / <sub>2</sub> 57 61 <sup>1</sup> / <sub>2</sub> 66 70 <sup>1</sup> / <sub>2</sub> 75 80 <sup>1</sup> / <sub>2</sub> 85	$44\frac{1}{2}$ $50\frac{3}{4}$ $57\frac{1}{8}$ $63\frac{1}{2}$ $70$ $75\frac{1}{4}$ $82\frac{1}{2}$ $89$ $95\frac{1}{2}$ $101\frac{1}{2}$ $108$ $114\frac{1}{2}$	685/8 $783/8$ $883/8$ $977/8$ $1073/4$ $1173/2$ $1273/4$ $137$ $1463/4$ $1563/2$ $1663/8$ $1763/8$	2678 3034 3476 3856 4218 4518 4518 4518 4518 6538 6536 6834	363/8 419/6 469/6 513/6 57 623/6 675/6 721/2 771/2 827/8 88 93	$10\frac{1}{2}$ $11\frac{1}{2}$ $12$ $13$ $13\frac{1}{2}$ $15$ $16$ $16$ $17$ $19\frac{1}{2}$ $19\frac{1}{2}$ $22\frac{1}{2}$	37 5/6 42 1/6 47 9/6 52 15/6 57 7/8 62 3/4 68 5/8 73 1/2 78 3/8 89 3/6 94 3/6	23 27 31 34 38 42 44½ 48½ 52½ 55 59 62½	33 37½ 43 47¾ 53 58 62 67½ 72½ 77½ 82 82	35 15 16 41 16 45 16 56 16 56 16 66 16 76 16 76 16 86 16 86 18 91 14	471/2 541/2 61 68 75 811/2 881/2 95 102 109 116 122

<sup>\*</sup> Diameter of Pipe to fit over Inlet.

									-	KEY	WAY	71 6	
Fan Size	0	P	R	S	Т	U	W	V	Z	Width	Depth	Shaft Diam.	Anchor Bolts
3½ 4 4½ 5½ 6½ 7½ 8½ 9	3778 4216 4634 54 57% 6256 6256 6856 7234 7712 8316 8814 92%	43 1/4 48 1/8 54 59 1/4 65 70 1/2 76 1/8 81 86 7/8 95 3/4 100 3/4 106	$47\frac{1}{4}$ $53$ $59$ $65\frac{1}{4}$ $71$ $77\frac{1}{2}$ $84$ $90$ $96\frac{3}{4}$ $106\frac{3}{4}$ $112\frac{3}{4}$ $119$	$68\frac{1}{4}$ $78$ $87\frac{3}{4}$ $97\frac{1}{2}$ $107\frac{1}{4}$ $117$ $126\frac{3}{4}$ $136\frac{1}{2}$ $146\frac{1}{4}$ $156$ $165\frac{3}{4}$ $175\frac{1}{2}$	$79\frac{5}{16}$ $90\frac{9}{16}$ $101\frac{7}{16}$ $112\frac{1}{3}$ $124\frac{5}{16}$ $134\frac{1}{3}$ $146\frac{1}{3}$ $146\frac{1}{3}$ $168\frac{1}{3}$ $179\frac{5}{16}$ $192\frac{3}{16}$ $203\frac{1}{3}$ $16$	38 % 48 % 48 % 52 % 58 % 63 % 69 % 74 % 79 % 85 % 90 % 90 % 95 %	28 36 42 48 54 62 68 74 80 86 92 98	8 10 10 12 12 14 16 18 20 22 24 26	1/4/4/4/4/6/6/6/6/6/8/8/8/8/8/8/8/8/8/8/8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1/8 3/6 1/4/4/4/8/8/8/8/8/2/2/2/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	2 5/16 2 15/16 3 15/16 4 7/16 4 7/16 4 7/16 5 7/16 5 7/16 5 7/16 6 7/16	3/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4



Type HV Fan—Sizes 3½ to 9—Arrangement A 2/8 Housed—Standard Single Width

### Dimension Table

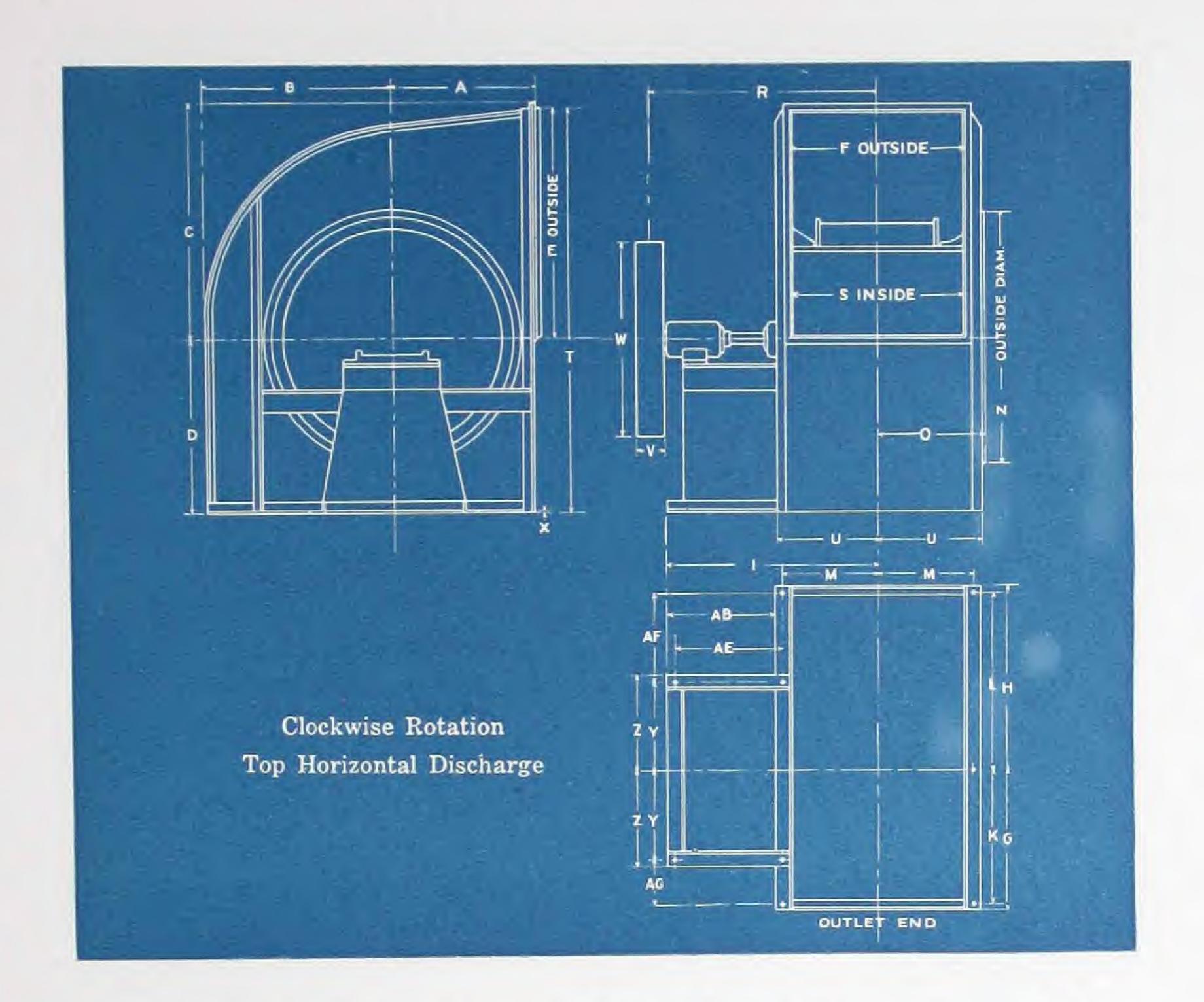
Dimensions are in Inches

Size Fan	A	В	C	D	E	F	G	Н	I	J	L	K	M	N
31/2 43/2 53/2 53/2 73/2 83/2 9	29 % 33 3 6 37 3 6 41 3 4 45 3 6 54 3 6 54 3 6 66 3 6 70 3 6 74 3 6	38% 441% 4958 551% 665% 71% 775% 8258 8838 935% 995%	34 38% 4336 4838 5334 5838 6238 6734 7238 7736 8234 8638	29 33½ 37 41½ 45½ 49 53 57 60½ 64½ 69 73	141414141616161616161616161616161616161	10 11 12 12 12 13 13 14 15 15 15 16 16 16 16 16 16 17 17 17 17 17 17 17 17 17 17 18	9 9 10 10 10 11 11 11 11 11	20% 23% 24% 29% 30% 36% 36% 40% 46% 46% 48%	261/2 287/8 317/8 347/8 411/8 437/8 463/8 497/8 527/8	2934 3234 3534 3934 42 4634 4934 5234 56 5934 6734	28 36 42 48 54 62 68 74 80 86 92 98	6 7 8 8 10 10 12 12 14 16 18	20 3/6 23 3/8 25 3/6 28 3/2 30 3/8 36 3/8 36 3/8 41 3/8 44 3/8 47 3/6 50	29 4 33 1 37 1 41 3 45 5 54 1 56 2 66 9 74 7

Size Fan	0	P	R	S	T	U	V	W	X	Y	Z	AB	*AC	SA
316 416 516 516 716 816 9	3356 3834 4256 4735 5636 6556 7034 7456 8036 8436	18% 21½ 23% 26% 29% 31% 34½ 36% 39% 41% 44% 47%	2714 3115 3515 3915 43 4615 51 5415 63 66 70	3096 3496 3936 4336 4736 5236 5636 6986 6986 7436 7836	136 136 136 136 136 136 136 136 136 136	2834 3236 3736 4136 4536 4956 54 5836 6236 6734 71 75	2636 2832 30% 3436 3636 3934 4236 4536 4736 50 5436	33% 36% 41 45% 49% 53% 5734 62 66 70% 72% 76%	373/8 415/8 463/8 513/8 555/6 595/6 65 693/8 783/8 783/8 82 86	44 50 5634 63 6934 7434 82 8834 93 101 10734 114	343/8 39 433/8 483/4 533/8 533/8 633/8 633/8 733/8 78 823/8 873/4	63 72% 80% 89% 98% 107% 115% 124% 132% 141% 151% 151%	4712 5412 61 68 75 8112 8812 95 102 109 116 122	323 369 41 459 549 549 633 679 723 775 815

<sup>\*</sup> Diameter of Pipe to fit over Inlet.

Note:- 3 Housed Fan not furnished smaller than size 31/2.



### Type HV Fan—Sizes 3½ to 9—Arrangement F Full Housed—Standard Single Width

### Dimension Table

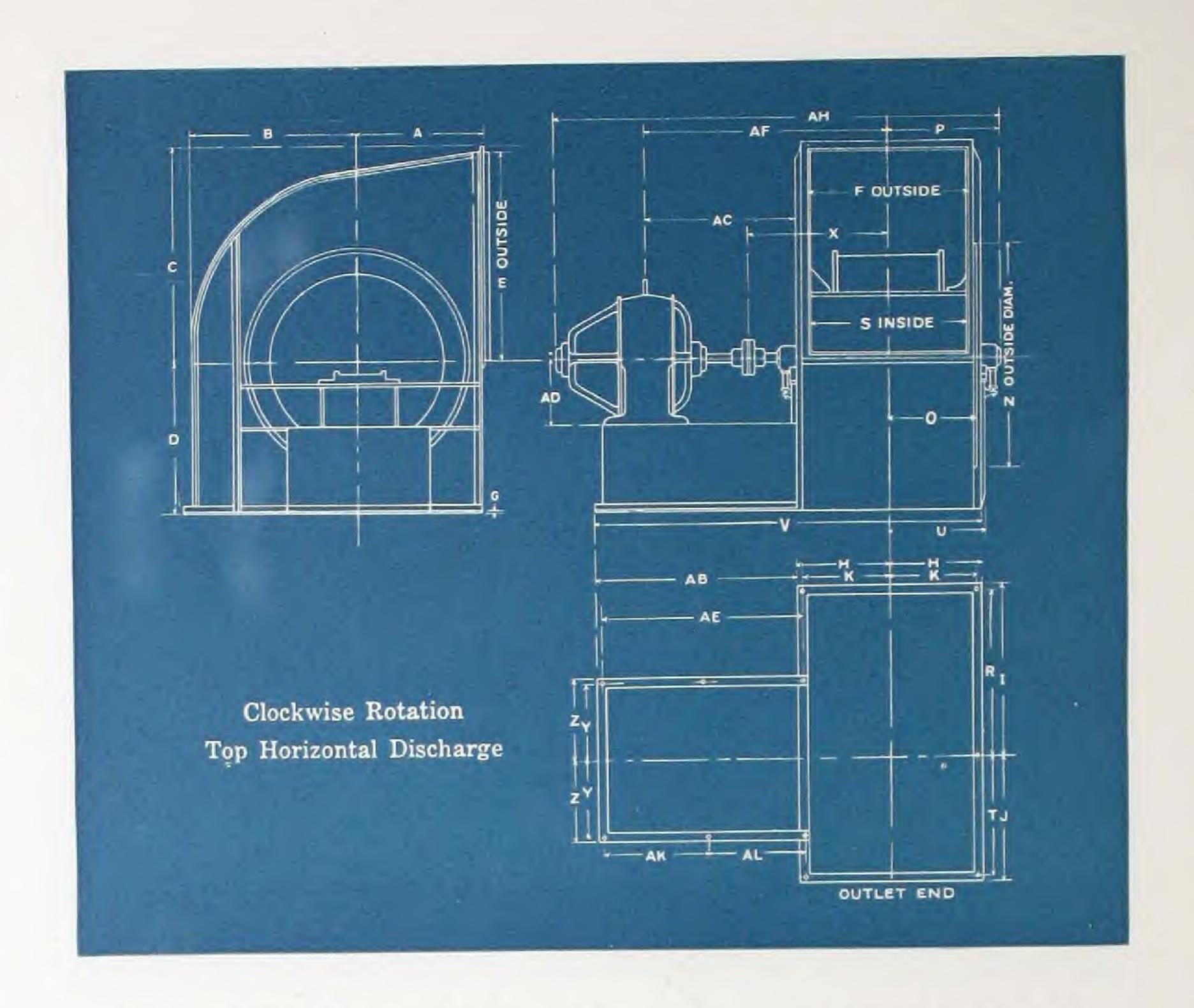
Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	Н	I	K	L	M	*N	0	R
31/2 4 41/2 5 51/2 6 61/2 7 71/2 8 81/2 9	271/8 3015/6 345/8 381/2 423/8 461/4 501/8 5315/6 573/4 619/6 657/6 691/8	363/8 41 %6 46 %6 51 %6 57 62 %6 67 %6 72 1/2 77 1/2 82 7/8 88 93	45% 51% 58% 64% 64% 77% 85% 91% 98% 104% 111% 118%	33 <sup>3</sup> / <sub>4</sub> 38 <sup>3</sup> / <sub>4</sub> 43 48 52 <sup>1</sup> / <sub>2</sub> 57 61 <sup>1</sup> / <sub>2</sub> 66 70 <sup>1</sup> / <sub>2</sub> 75 80 <sup>1</sup> / <sub>2</sub> 85	44½ 50¾ 57⅓ 63½ 70 75¼ 82½ 89 95½ 101½ 108 114½	34½ 39¾ 44¼ 49⅓ 54⅓ 54⅓ 59 63¾ 78⅓ 78½ 88¾ 88¾	2678 3034 3476 3856 4218 4556 4956 5358 5712 6138 6536 6834	363/8 419/6 469/6 513/6 57 623/6 675/6 723/2 773/2 823/8 88 93	$44\frac{3}{8}$ $47\frac{3}{8}$ $49\frac{3}{4}$ $58\frac{3}{4}$ $61\frac{1}{8}$ $69\frac{3}{4}$ $73\frac{1}{4}$ $81\frac{5}{8}$ $84\frac{1}{4}$ $92\frac{5}{8}$ $102$ $104\frac{1}{2}$	23 27 31 34 38 42 44½ 48½ 52½ 55 59 62½	33 37½ 43 47¾ 53 58 62 67½ 72½ 77½ 82 82 87	$18\frac{1}{2}$ $21\frac{1}{2}$ $23\frac{1}{6}$ $26\frac{1}{6}$ $29\frac{1}{8}$ $31\frac{1}{6}$ $34\frac{1}{2}$ $36\frac{1}{6}$ $39\frac{3}{8}$ $41\frac{3}{6}$ $44\frac{3}{4}$ $47\frac{3}{6}$	$47\frac{1}{2}$ $54\frac{1}{2}$ $61$ $68$ $75$ $81\frac{1}{2}$ $88\frac{1}{2}$ $95$ $102$ $109$ $116$ $122$	20 3/6 23 3/6 24 3/6 29 3/6 30 3/4 30 3/6 36 5/8 40 3/6 46 3/8 46 3/8 46 3/8 46 3/8 46 3/8 46 3/8 46 3/8	48 51 53 62 65 75 77 86 89 99 111 117

\*Diameter of Pipe to fit over Inlet.

				20		**	37	7	AD	A TO	AF	AG	KEY	WAY	Shaft	Ancho
Fan Size	S	Т	U	V	W	X	Y	Z	AB	AE	AT	AG	Width	Dapth	Diam.	Bolts
3½ 4 4½ 5½ 5½ 6 6½ 7 7½ 8½ 9	34 1/8 39 43 7/8 48 3/4 53 5/8 58 1/2 63 3/8 68 1/4 73 1/8 78 82 7/8 87 3/4	$79\frac{5}{6}$ $90\frac{9}{6}$ $101\frac{7}{6}$ $112\frac{3}{6}$ $124\frac{5}{6}$ $134\frac{1}{6}$ $146\frac{1}{6}$ $157\frac{1}{6}$ $168\frac{1}{6}$ $179\frac{5}{6}$ $192\frac{3}{6}$ $203\frac{1}{6}$	20 % 23 1/8 25 9/6 28 1/2 30 1/6 33 3/8 36 13/6 39 1/4 41 1/6 44 1/8 47 9/6 50	6 7 8 8 10 10 12 12 14 16 18	28 36 42 48 54 62 68 74 80 86 92 98	1/4 1/4 1/4 1/4 5/16 5/16 5/16 3/8 3/8 3/8 3/8 3/8 3/8 3/8	155/8 167/8 183/8 207/6 211/6 243/6 2511/6 2511/6 273/6 293/6 293/6 293/6 3211/6 3311/6	$17$ $18\frac{1}{2}$ $20$ $22\frac{1}{4}$ $23\frac{1}{2}$ $26$ $28$ $29\frac{1}{2}$ $31\frac{1}{2}$ $32$ $35\frac{1}{2}$ $36\frac{1}{2}$	24 %6 24 \%6 24 \%6 30 \%6 36 \%8 36 \%8 42 \%6 42	22 % 22 % 22 % 28 % 28 % 33 % 39 % 39 % 46 % 51 % 51 %	173/8 205/8 245/8 275/6 315/6 365/6 405/6 405/6 475/6 475/6 475/6 495/6 535/6	73/8 101/8 125/8 13/6 16/6 16/6 17/8/6 18/8/6 21/8/6 23/6 25/6 26/6 28/8/6 28/8/6	5/8 5/8 5/8 3/4 3/4 1 1 1/4 1/4 1/4 1/4	1/8 3/6 3/6 1/4 1/4 1/4 3/8 3/8 1/2 1/2 1/2 1/2	2 3/6 2 15/6 2 15/6 2 15/6 3 15/6 3 15/6 4 15/6 4 15/6 5 7/6 5 7/6	3/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4

(TYPE HV FANS) 77% EFFICIENT)



### Type HV Fan—Sizes 3½ to 9—Arrangement G Full Housed—Standard Single Width

Dimension Table

Dimensions are in Inches

Fan Size	A	В	C	D	E	F	G	H	I	J	K	*N
312 4 4 5 5 5 6 6 6 7 7 12 8 8 12	2718 3056 3458 3816 4238 4614 5018 5356 5734 6156 6576 6576	363/8 413/6 463/6 513/6 57 623/6 723/2 773/2 823/8 88 93	45%6 51%6 58%6 64%6 71%6 77%6 85%6 91%6 91%6 111%6 118%6	3334 3834 43 48 5216 57 6116 7016 75 8016 85	443/2 503/4 573/8 633/2 70 753/4 823/2 89 953/2 1013/2 108 1143/2	34½ 39¾ 44¼ 49¼ 54⅓ 59 63¾ 78½ 88¾ 78½ 88¾	1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	20 % 23 % 25 % 25 % 26 33 % 36 % 36 % 39 % 41 % 41 % 47 % 50	363% 41% 46% 51% 57 62% 67% 721% 771% 82% 88	2678 3084 3476 3856 4218 4556 4956 5712 6138 6586 6884	18% 21% 23% 26% 29% 31% 34% 36% 39% 41% 44% 44% 47%	47 1 54 1 61 68 75 81 1 95 102 109 116 122

<sup>\*</sup>Diameter of Pipe to fit over Inlet.

Fan Size	0	P	R	S	T	U	X	KEY	WAY	Shaft Diam.	Anchor
			1.0					Width	Depth		
335 435 536 636 736 835 9	20% 23% 24% 29% 30% 30% 36% 36% 40% 44% 46% 46%	2635 2878 3138 3436 3738 4134 4638 4936 52 5578	33 3734 43 4734 53 58 62 6734 7734 7734 82 87	343% 39 433% 483% 535% 583% 638% 683% 733% 78 823% 873%	23 27 31 34 38 42 48 42 48 52 52 55 59 62	21 36 23 36 26 36 29 36 32 34 35 36 40 56 44 36 46 36 48 36 48 36 51 36	3234 3538 3934 434 5038 5738 6134 6434 7038 7438	3-2 3-8 3-4 3-4 3-4 1 1 1 1	1/8/6/16/14/14/14/14/14/14/14/14/14/14/14/14/14/	2 3 16 2 3 16 3 3 16 3 3 16 4	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

Note: - Dimensions Y, Z, AB, AC, AD, AE, AF, AH, AK and AL dependent upon size and type of motor used.

## Clarage Unit Heater

FURNISHED with a positive, centrifugal fan, mounted as shown, the Clarage Unit Heater is the only equipment of its kind delivering heat direct from the fan radially in all directions. This advantage is of first importance. It means no overheating of one part to properly warm the rest of the building. It means a uniform, agreeable temperature everywhere with practically no heat loss—unusually high heating efficiency. Likewise, since the fan is of the modern backward curve blade type, it cannot overload the motor under any operating conditions. The motor furnished will handle the fan at free air delivery, or with elaborate fresh air intakes, dampers, etc.

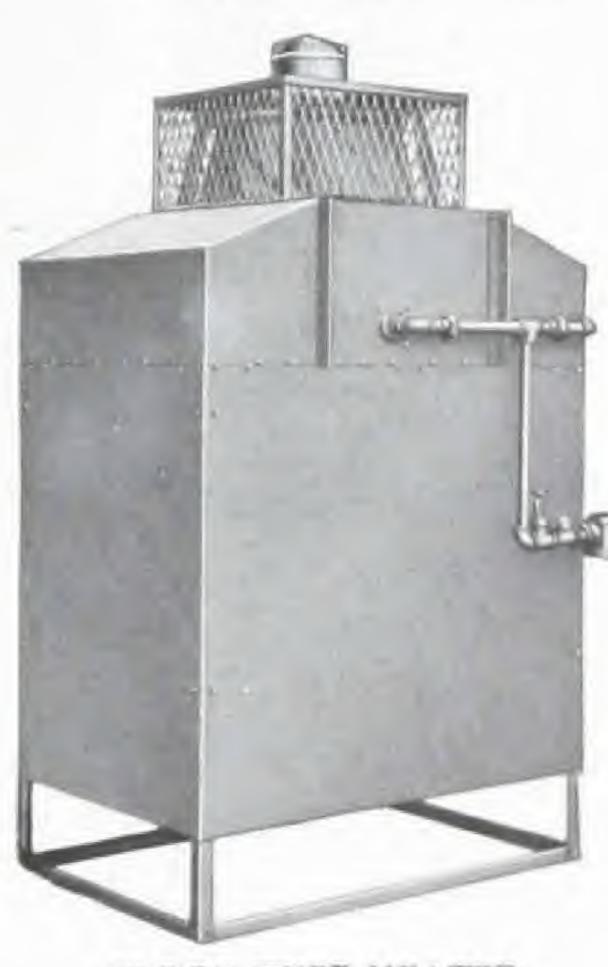
Clarage Unit Heaters are built in three standard sizes, either floor or ceiling type, to meet all industrial heating requirements with maximum economy. They have over five times the capacity of an equal amount of direct radiation and include many refinements not found elsewhere. Catalog 42 gives complete information and specifications.



THE Type V Washer embodies a number of outstanding advantages. For one thing, the nozzles provided are designed to produce an unbroken mist screen at considerably lower pump pressures, saving as high as 25% in power cost for operating the re-circulating pump; nor can the nozzles clog, since their design is simple and all openings are of ample size. All spray piping is self-supporting and is not carried as a dead weight on the washer casing. A water-tight inspection door is furnished as regular equipment. The Clarage Guarantee placed on this washer includes both performance and construction.



CEILING TYPE HEATER

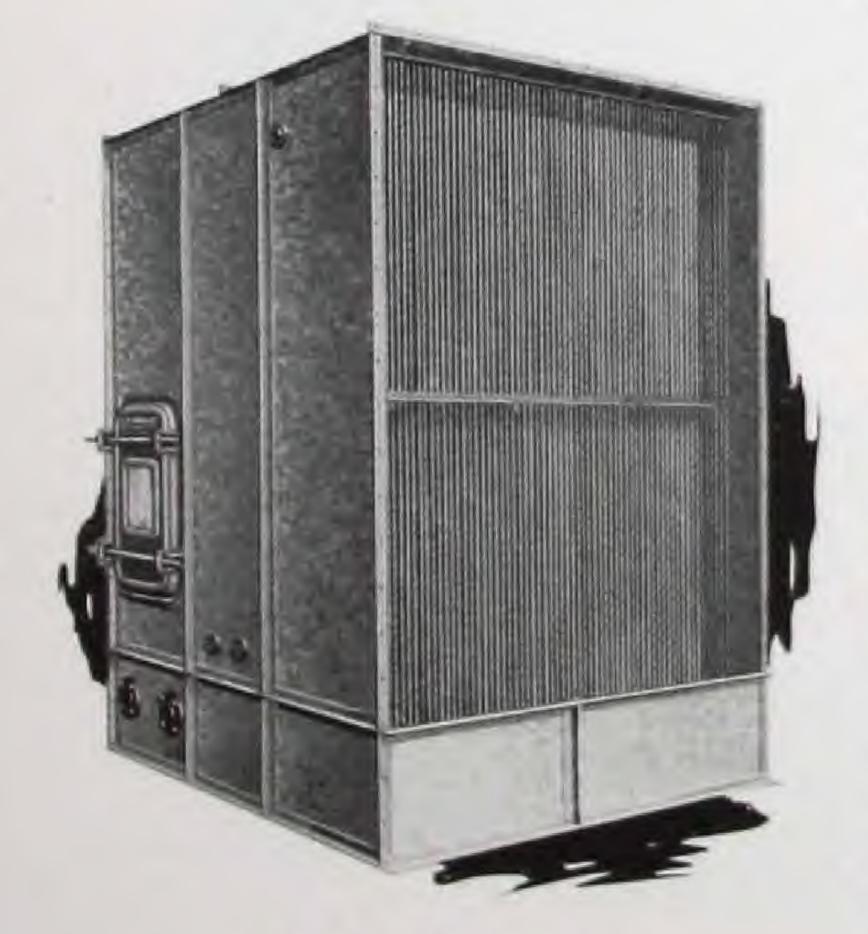


FLOOR TYPE HEATER

The standard Type V Washer, in the large range of sizes available, meets practically all washed air ventilating and air conditioning requirements. Most of the larger Type HV Fan installations cited on pages 5 and 6 in this Catalog also include Clarage Air Washers. Write for Catalog 72 illustrating and fully describing this high grade

equipment.

For unusual humidifying and de-humidifying applications special Clarage Air Washing Equipment is designed and built. Consult with Clarage engineers on any problem of this type.



TYPE V AIR WASHER

## New High Speed Ventilating Fan

THIS is a recent Clarage development designed in accordance with the best in modern fan engineering practice, and embodying a scientifically proportioned backward curve blade type wheel which gives the unit a self-limiting horsepower characteristic. It is impossible to overload the motor used for driving the fan, even though all static resistance is eliminated and the fan operates at maximum capacity with free air delivery. As a result, it is not necessary to figure a large safety allowance in the motor because of the ample safety factor incorporated into the fan design. The high operating speeds also promote economy since they permit direct drive from standard speed motors. Write for complete information.

# CLARAGE

Manufactures a Complete Line of Air Handling Equipment and Allied Apparatus

> Acid Proof Fans Air Conditioning System Air Washers

Blast Grates Blowers

Cast Iron Fans
Cooling Fans
Cotton Fans
Crown Ventilators
Cupola Blowers

Dehumidifying Systems Drying Systems

Engines (Vertical Steam) Exhausters

Fans Forced Draft Blowers

Gas-Tight Fans (Exhausting and Pressure Boosting)

Heaters
Heating & Ventilating Systems
High Speed Forced Draft
Blowers

Induced Draft Fans Inspection Doors

Humidifying Systems

Mechanical Draft Equipment
Mine Fans
Multiblade Fans
Mushroom Ventilators

Planing Mill Exhausters Powdered Coal Fans Pressure Blowers

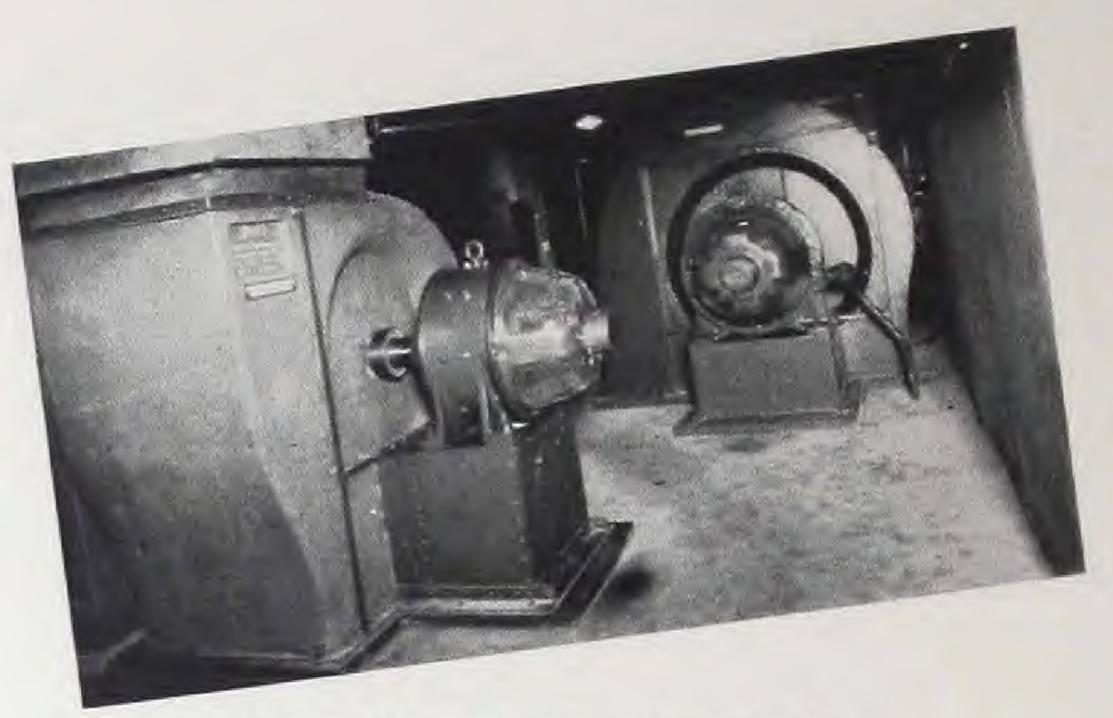
Reversible Fans and Blowers

Sheet Metal Doors
Slow Speed Planing Mill
Exhausters
Steam Engines
Steel Plate Fans

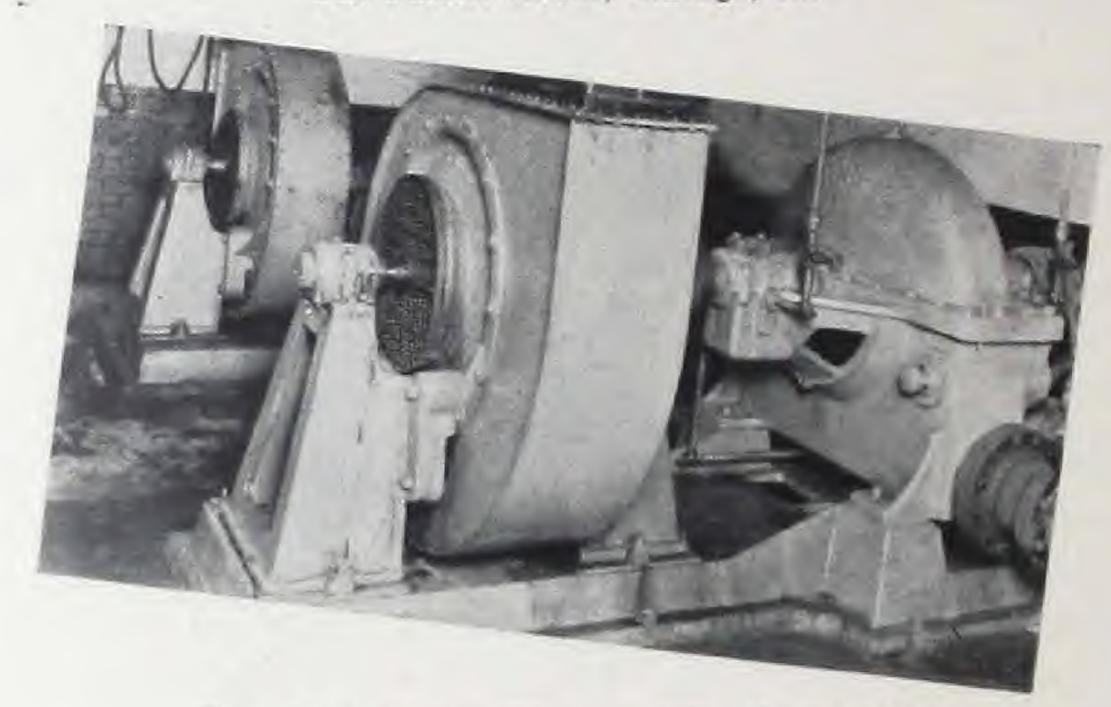
Unit Heaters

Ventilating Systems

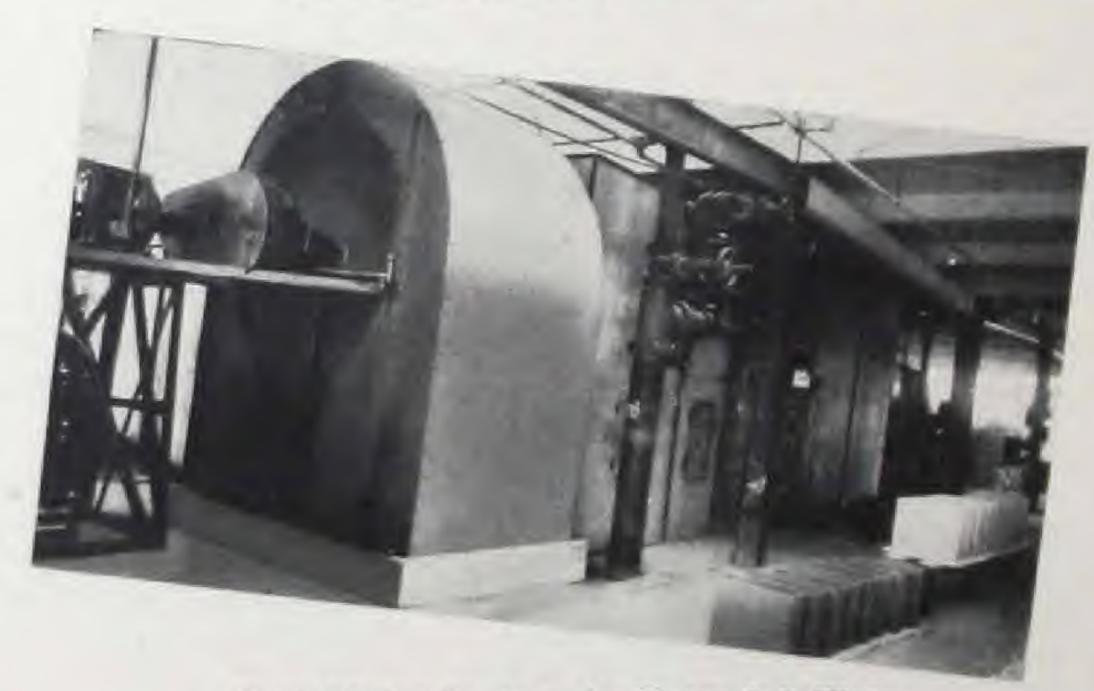
Waste Heat Fans Water Gas Blowers



Clarage Ventilating Fans Operating in The Palmer House, Chicago, Ill.



Type P Water Gas Blowers at Southern Indiana Gas & Electric Co., Evansville, Ind.



Humidifying System for Enameled Ware, Thomas Maddock's Sons' Co., Trenton, N. J.



Forced Draft Fan Servicing Boilers Maumee Finishing Co., Toledo O

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